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study evidence from the 'crash' of an airline

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The management of accounting numbers: case study evidence from the 'crash' of an airline

Ann Jorissen and David Otley*

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Abstract — Financial misrepresentation has usually been analysed by large-scale empirical research. However, the generality gained from such an approach is at the cost of understanding the rich and complex nature of financial misrepresentation in real organisations. We adopt a case study approach to gain more insight into the incentives, embedded in contracts, which trigger decisions to engage in financial misrepresentation and the underlying elements of discretion in these processes. In particular, we examine whether contractual incentives should be considered as endogenous or exogenous and we take a more integrated and dynamic perspective than is typical.

Our findings demonstrate that in order to understand the decision processes of real managers it is necessary to distinguish between negotiable and non-negotiable contracts of the firm. Using a multi-theory perspective we observe that the direction of the causation assumed in the agency framework (i.e. contracts influence behaviour) is often reversed in the case of negotiable contracts (i.e. managers influence contracts). The case findings also provide insights into a number of additional variables which enlarge the discretion of a senior manager to engage in financial misrepresentation. The manipulation of accounting numbers can be achieved by many mechanisms which traditional methods based on accruals would not detect. The use of a wider range of research methods is therefore desirable.

Keywords: earnings management; financial misrepresentation; accounting choices; corporate governance; executive compensation

1. Introduction

The primary purpose of financial reporting is to convey information on a company's performance and financial situation to a wide range of people. Management communicates much of this information using accounting numbers, which are surrogates for the underlying events and transactions which affected economic performance (Revsine, 1991). There is thus an incentive for managers to misrepresent all types of accounting numbers included in the financial statements and the accompanying annual report so as to present firm performance in a favourable light. In the wake of recent corporate scandals, academic research into

financial misrepresentation has intensified but it has concentrated almost exclusively on the management of earnings numbers, with most studies examining the presence of earnings management through the analysis of accrual decisions. The observation that, in cases such as Enron, Worldcom, Ahold and Parmalat, both earnings numbers and balance sheet numbers were managed, underscores the fact that financial misrepresentation is broader than just earnings management.

Studies on financial misrepresentation mainly use large scale empirical data to demonstrate that accounting numbers are, or are not, being managed. Most studies try to understand why managers manipulate earnings, how they do so and what are the influences and consequences of this behaviour (McNichols, 2000). The management of balance sheet numbers has received far less attention (Shevlin, 1987; Ely, 1995; Bauman, 2003) and the management of disclosure numbers has hardly been addressed. Despite the research effort devoted to this topic most empirical studies, usually based on agency theory, still suffer from a number of limitations.

An important feature of financial misrepresentation studies, which regard the management of accounting numbers as a reaction to incentives embedded in the contracts governing the firm, is the assumption that the contract and reporting set of the

*Ann Jorissen is at the University of Antwerp, Belgium and David Otley is at Lancaster University Management School, UK.

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Correspondence should be addressed to: Professor Ann Jorissen, University of Antwerp, Department of Accounting and Finance, Prinsstraat 13, 2000 Antwerp, Belgium. Tel: 00 32 3 220 40 92. E-mail: ann-jorissen@ua.ac.be.

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firm is fixed (Schipper, 1989). The advantage of this approach is that fixed sets imply rigidities or frictions which are an incentive for earnings management. It is not uncommon that most studies that use the agency paradigm consider the incentives towards financial misrepresentation of accounting numbers as exogenous variables which drive the financial misrepresentation process. This assumption permits a focus on financial misrepresentation as a response to environmental conditions, but it precludes a dynamic analysis of the evolution of contractual changes (Schipper, 1989).

More than 10 years later Fields et al. (2001) also argue that limited progress has been made in earnings management research. These authors mention two reasons for this limited progress. First, there have been few attempts to take an integrated perspective on earnings management (i.e. consideration of multiple motives and multiple methods). Second, earnings management research generally fails to distinguish appropriately between what is endogenous and what is exogenous. This latter concern is shared by Core (2001). The majority of earnings management research assumes the contractual incentives to be independent and exogenous variables explaining the presence or absence of earnings management and its magnitude. Misrepresentation studies typically do not take into account the possibility of the presence of endogeneity in the financial misrepresentation process. In case of endogeneity, financial misrepresentation targets shape the contracts governing the firm as well as the contracting inefficiencies which create managerial discretion. If endogeneity is present the error term will be correlated with the explanatory variable in ordinary least squares (OLS) regressions used to explain the management of accounting numbers and will lead to biased estimators (Chenhall and Moers, 2007).

In their review of earnings management, Dechow and Skinner (2000) conclude that measures of earnings management devised by academic researchers have not been very powerful in identifying the extent of the practice. They therefore argue that a more fruitful way to identify firms whose managers practise financial misrepresentation is to focus on managerial incentives.

This study responds to this literature by examining the process of financial misrepresentation from an integrated (multiple incentives and multiple methods) and a dynamic perspective. The overall research objective is to shed more light on the underlying processes which trigger the decision to engage in financial misrepresentation and the underlying mechanisms which support or facilitate it, yet

remain unexplored by traditional earnings management research. This research objective is translated in two specific research questions. First, we investigate which variables have an exogenous character and which variables have an endogenous character in the process of financial misrepresentation. Insight on the issue of endogeneity versus exogeneity will help to refine the empirical models used in financial misrepresentation research. Second, we investigate whether additional variables supporting or facilitating earnings management can be found which provide increased explanatory power.

In order to address these two research questions, we use case data taken from two connected major European airlines, the Swiss airline Swissair and the Belgian flag carrier Sabena, which both filed for bankruptcy in the autumn of 2001. These corporate collapses, especially that of Swissair (part of SAirgroup), came as a surprise to many people. An investigation report, undertaken at the request of the administrator of the SAirgroup,¹ points to the presence of unfaithful representation of the economic performance in the accounting numbers:

‘The unconsolidated and consolidated financial statements for 1999 and, to a much greater degree, for 2000, did not fairly present the economic and financial situation of the SAirgroup.’

We therefore seek to analyse and explain how such mis-statements came about. This paper distinguishes itself from other studies in two respects. First, it uses a case study method in combination with internal archival company data and public information. A number of studies in the critical perspectives literature (Benston and Hartgraves, 2002; Lev, 2002; Arnold and de Lange, 2004; Baker and Hayes, 2004) and in the capital market based stream (Lys and Vincent, 1995; de Jong, et al., 2007) have also used a case study approach, although all are based only on publicly available financial data. By contrast, following Wilson and Shailer (2007), we opted for a case study based on internal company data as it provides the opportunity for a richer exploration of the interrelationships among the variables which stimulate or influence financial misrepresentation and the processes which are triggered by the decision to engage in it. These relationships are a black box in most financial misrepresentation studies.

Second, this study uses a multi-theory perspective which explicitly considers the central role of

¹ Press release on ‘The Investigation Report’ ‘Ernst & Young Bericht in Sachen Swissair’, 20 January 2003.

top management in choosing to engage in accounting numbers management. Therefore, the case data are analysed in two phases. In the first phase we analyse the data through an accounting literature perspective. Subsequently we refer back to the extant accounting literature in order to try to explain the patterns we find in the data. Not all observations of the first phase can be explained by the accounting literature. Therefore in the second phase of the case study we examine the case data through a management theory perspective in order to generate additional explanations. Based on Cyert and March's concept (1963) of bounded rationality, Hambrick and Mason (1984) elaborated their upper-echelons theory which suggests that an organisation becomes a reflection of its top executives and that the characteristics and functioning of the top management team have a great influence on organisational outcomes. The combination of this accounting perspective and management theory perspective on the data results in a multi-theory perspective on financial misrepresentation.

The results of our study extend the literature in two ways. First, by using detailed empirical documentation of the importance of each of the variables at each point in the firm's development, we gain more insight in the relationship among all variables involved in the process of financial misrepresentation. The case method allows us to observe which contractual incentives and which elements of discretion, created through inefficient contracting, have an endogenous character in the process of financial misrepresentation. We find that incentives embedded in negotiable contracts, governance characteristics and ownership characteristics, which have traditionally been regarded as exogenous in the process of financial misrepresentation, can have an endogenous character. The case results show that these variables, which are supposed to affect financial misrepresentation, themselves depend on that outcome. Simultaneity is an important cause of endogeneity (Chenhall and Moers, 2007), and arises when one or more of the explanatory variables are jointly determined with the explained variable. The above mentioned variables (incentives embedded in negotiable contracts and discretion resulting from ownership and governance characteristics) have an endogenous character within the boundaries of the implementation of the strategic choice of the Chief Executive Officer (CEO). Non-negotiable contracts and externally determined discretion (institutional variables such as investor protection, risk of litigation and often the quality of generally accepted accounting principles (GAAP)) remain exogenous to financial

misrepresentation. This finding has significant implications for the conduct of large scale empirical research, as current studies suffer from both omitted variables and simultaneity.

Second, we identify a number of additional variables which are used by management to enlarge their accounting discretion. These variables include the composition of the top team of executives, organisational design, investment characteristics, and the management control system. Different aspects of the management control system can be used to facilitate financial misrepresentation (e.g. the degree of centralisation, the division of task responsibilities and the choice of the measures used in the incentive systems). Finally, the findings reveal that financial misrepresentation can involve all types of financial and management accounting information as well as strategic, investment and operating decisions.

The paper is structured as follows. In Section 2 we introduce the research method applied in order to address the two research questions of this study. In Section 3 we review the literature and derive the variables which guide the analysis of the case data. In Section 4 the research data are presented. In Section 5 the results of the first phase and the second phase of the case analysis are presented. In Section 6 the results obtained in the two phases are combined into a multi-theory perspective on financial misrepresentation. We conclude (Section 7) by suggesting that research methods need to be extended if they are to discover the different types of manipulation of accounting numbers presented in this paper.

2. Research method

We wish to examine the interrelationships among some of the variables which stimulate and enhance financial misrepresentation using a case study. We have opted for a case study approach as it allows insights into management processes which are difficult to obtain using arm's length methods alone (Gephart, 2004) and can suggest new explanations that have not been previously considered. The framework for analysis of the case data will be first provided by the extant accounting literature (first phase) and second by insights from the management literature (second phase). The combination of the two phases will result in a multi-theory perspective on financial misrepresentation. We introduce the research method in this section by presenting the case company, the case data and the research methodology. Subsequently we review the literature which suggests some variables of interest to focus on in analysing the evidence.

2.1. *The case company*

In order to address our two research questions, we need internal company data to study the processes and mechanisms triggered by the decision to manipulate the accounting numbers. SAirgroup (former Swissair group) as the subject of the case study was chosen for two reasons. First, the report undertaken at the request of the Administrator of the SAirgroup stated explicitly that in 1999 and 2000 the financial statements (consolidated and unconsolidated) of the SAirgroup did not fairly present the economic and financial position of the SAirgroup. This conclusion points to financial misrepresentation of the underlying economic performance through the published accounting numbers. Second, we obtained unique access to internal company data, which allowed us to study the underlying processes which triggered the decision to manage the accounting numbers and which supported and facilitated financial misrepresentation, processes which could not be observed using public data alone.

In the period of our study, we distinguish the following important events in our case company. A year after Swissair acquired 49.5% of the Belgian flag carrier Sabena (May 1995), the company, now SAirgroup, embarked on a corporate strategy, called the 'dual strategy'. This strategy was geared towards growth in both the airline business and the airline-support businesses. This growth strategy, realised mainly through acquisitions, resulted in growing financial needs.

2.2. *Case data*

The data employed to analyse the research questions consist of archival data and interviews. Different categories of archival data were used (see Appendix A for a complete list) and this provided an opportunity for triangulation (Miles and Huberman, 1998; Yin, 2003). The internal company documents we reviewed consisted of minutes and accompanying documents of the most important committees of the Swissair/SAirgroup and the Sabena group, correspondence within and between the companies, and contracts and agreements signed between the Swissair/SAirgroup, Sabena, and the shareholders. We had access to reports requested by the Swissair/SAirgroup or Sabena from various consultants and to the auditors' reports. Besides these internal private materials, we consulted the documents released to the public by the SAirgroup and Sabena and reports and books published on these businesses. A number of interviews with some members of the ex-management team of both airlines were also

held. Given the judicial enquiries around the bankruptcies of both airlines, caution must be exercised in the interpretation of these interviews. The potential bias in national press reports also requires to be recognised, but in aggregate this information can yield important insights. Insights derived from one source were always confirmed by information from other sources. Through this triangulation exercise, we report only consistent findings in our case analysis, having discarded non-consistent results.

2.3. *Frameworks for analysis*

The case data were analysed in two phases. In each phase an embedded design is employed (Eisenhardt, 1989). This design implies that multiple levels of analysis are undertaken in each phase. Following Miles and Huberman (1998), we arranged the data into a condensed chronological account. In the first phase of the case research the internal and external company documents were extensively reviewed in order to collect information on all the variables involved in financial misrepresentation, previously revealed by the accounting literature. The case data are analysed in the first phase according to the directionality of the relationships assumed in traditional accounting research.

Central to extracting evidence from case studies is the replication logic (Eisenhardt, 1989). In this first phase of the case analysis, we used a multiple case approach by considering each investment of the SAirgroup in a foreign airline as an individual case. Each case served to confirm or refute inferences drawn from the analysis of the choices made in relation to the SAirgroup's first investment in Sabena (Yin, 2003). Accordingly, in the first phase of the case analysis we collected data on multiple incentives, multiple choices and discretion over a period of time. Once patterns were detected, we referred back to the extant accounting literature to seek explanations for these patterns. Since the results of the accounting literature did not provide sufficient explanation for all the observed patterns, we examined the data again using insights derived from management theories. In this second phase of the case analysis, we introduced CEO characteristics and CEO-succession, top team composition and the strategic choice as potential explanatory variables. Finally, through the combination of the results obtained in the two phases of the analysis we are able to shed more light on the directionality between the variables involved in financial misrepresentation and on the variables employed to create the

necessary discretion to engage in managing accounting numbers.

3. Literature review

In this section of the paper, we review the literature in order to determine the variables we will focus on to address our research questions. The findings from the accounting literature and the management literature provide a multi-theory perspective on the process of financial misrepresentation.

Central in this study is the definition of financial misrepresentation. A definition of this concept (or of accounting numbers management) is hard to find since most authors in the accounting literature narrow the scope of financial misrepresentation to earnings management. However, Revsine (1991) and Lee (2006) define the phenomenon from a broader perspective than most. According to Revsine (1991) there are incentives that motivate various parties to misrepresent financial events since a primary purpose of financial reporting is to provide a basis for contracting and decision-making. While the events that affect performance often cannot be controlled, the way that people perceive these events can be controlled. Manipulating these surrogates provides decision-makers with a means for influencing peoples' perceptions of managerial performance (Revsine, 1991: 16). Lee (2006: 423) labels the management of accounting numbers as 'reporting deceit'. Reporting deceit refers to any accounting or disclosure practice that deliberately misrepresents economic activity by enlarging or diminishing corporate assets, liabilities, equity, profits and cash flows reported in financial statements. Both authors refer to a managerial intent to mislead shareholders and other stakeholders of the firm. This element of managerial intent is also present in the widely cited definitions of Healy and Wahlen (1999) and Schipper (1989).

According to Healy and Wahlen (1999: 368) 'earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers.' Schipper (1989: 92) defines earnings management as 'a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to, say, merely facilitating the neutral operation of the process).' According to Dechow and Skinner (2000: 238) the above definitions are difficult to operationalise since they centre

on managerial intent, which is unobservable from public data. However, access to internal archival company data allows data on managerial intent to be gathered and assessed.

3.1. Literature review: the analysis of financial misrepresentation through an accounting lens (phase I)

Since the objective of this study is to examine the incentives towards financial misrepresentation and the underlying processes from an integrated and dynamic perspective, we review the literature on incentives, methods used and available accounting discretion. Although the impression management literature and the business ethics literature could provide additional insights as well, we do not elaborate on their findings in order keep the complexity of the case under control.

3.1.1. Incentives towards financial misrepresentation

The traditional accounting literature considers the incentives embedded in the contracts governing the firm as triggers to mislead the stakeholders. Since the accounting literature distinguishes between external and internal contracts, we first review the evidence found on incentives embedded in the external contracts of the firm and then we focus on the internal contracts.

Capital markets depend on information sources and expect corporate financial reports to represent the economic activity of the firm through the accounting numbers. Evidence is available that listed firms have an incentive to show a recurrent and increasing stream of earnings (Barth et al., 1995; DeAngelo et al., 1996) together with low earnings volatility (Hand, 1989; Bartov, 1993; Hunt et al., 1995); to avoid small losses (Burghstahler and Dichev, 1997) and to meet benchmarks or targets (DeGeorge et al., 1999; Kasznik, 1999). The external contracts with shareholders stimulate management to communicate accounting numbers reflecting the above mentioned patterns. Next to contracts with shareholders, contracts with debt holders also provide stimuli to management to engage in accounting numbers management in order to avoid the violation of debt covenants and to obtain a favourable credit rating (De Fond and Jambalvo, 1994; Sweeney, 1994; Dechow et al., 1996). Further research indicates that contracts with regulatory authorities provide an incentive to engage in accounting numbers management to avoid regulatory intervention (Key, 1997; Han and Wang, 1998) or to minimise taxation (Beatty et al., 1995; Guenther et al., 1997).

Financial misrepresentation is also stimulated by the implicit and explicit internal contracts of the firm. The threat of a performance-related CEO turnover creates incentives to match industry performance (De Fond and Park, 1997; Fudenberg and Tirole, 1995) and stimulates new CEOs to engage in big bath accounting in their first year of office (Pourciau, 1993; Murphy and Zimmerman, 1993; Godfrey et al., 2003). Further, ample evidence is available that reward and bonus plans, which represent the explicit internal contracts of the firm, can drive earnings management (Healy, 1985; Gaver et al., 1995; Holthausen et al., 1995; Guidry et al., 1999; Bartov, 2001).

A common feature of all these studies in this stream of research is to assume that the incentives embedded in the contracts are independent variables that are exogenous in the process of financial misrepresentation.

3.1.2. Methods or choices used for financial misrepresentation

In order to study financial misrepresentation, its presence first has to be observed. Apart from distributional studies, which test whether the distribution of earnings around benchmarks differs in some predicted way from what would be expected in the absence of earnings management (Burghstahler and Dichev, 1997; Degeorge et al., 1999; Beatty and Petroni, 2002) most studies rely for the detection of financial misrepresentation on the observation of the methods used to manage the accounting numbers. In the extant literature two broad categories of methods to manage accounting numbers are distinguished, namely, accounting methods and real or operating methods. A number of authors label these methods 'choices'. Dechow and Skinner (2000) distinguish between accounting choices and real cash flow choices. These authors further subdivide the accounting choices into within GAAP choices and choices which violate GAAP. Schipper (1989) also classifies the methods in two groups, namely, accounting choices and real or operating choices. Fields et al. (2001) label all methods employed to manage accounting numbers as accounting choices. They define accounting choices as any decision whose primary purpose it is to influence (either in form or in substance) the output of the accounting system in a particular way, including not only published financial statements, but also tax returns and regulatory filings.

For the purpose of this study we distinguish, like Schipper (1989) and Dechow and Skinner (2000), between accounting choices and real choices. In order to subdivide both types of choices or

decisions further we rely on Francis (2001). According to Francis, choices to convey a message or influence stakeholders, can be categorised into the following groups: choices among equally acceptable rules or methods; judgments and estimates required to implement generally accepted accounting rules or methods; disclosure decisions; timing decisions of when to adopt a required accounting rule; choices about display; aggregation decisions; classification decisions; decisions to structure transactions in certain ways to achieve a desired accounting outcome; and real production and investment decisions.

In the extant literature most research uses only one accounting choice, namely the presence of accruals, as the dependent variable in order to detect earnings management (Dechow et al., 1995; Beneish, 1997; Mc Nichols, 2000). This observation implies that only financial misrepresentation executed through accruals management is well studied. Only a few studies try to capture earnings management by examining real operating decisions (see Wayne et al., 2004; Roychowdury, 2006). However, analytical studies (Ewart and Wagenhofer, 2005) and survey research (Nelson et al., 2002, 2003; Graham et al., 2005) provide evidence that corporate management uses both real and accounting choices to influence the reported numbers. As a consequence, Nelson (2003) suggests that detailed guidance in accounting standards reduces earnings management achieved through management judgments but increases earnings management achieved through transaction structuring or real decisions.

3.1.3. Discretion to engage in financial misrepresentation

Watts and Zimmerman (1990) suggest that financial misrepresentation occurs when managers exercise discretion over the accounting numbers without or with little restriction. Prior literature (both capital market based literature focusing on inefficient contracting and the critical literature) has uncovered different variables which loosen the restrictions on top management to engage in the management of accounting numbers. This research indicates that the degree of ownership concentration affects the nature of contracting and that accounting informativeness declines as ownership concentration increases (Dempsey et al., 1993; Warfield et al., 1995; Donnelly & Lynch, 2002; Fan & Wong, 2002). Further evidence shows that institutional characteristics such as the quality of accounting standards (Pope & Walker, 1999; Ball et al., 2000; Ali & Hwang, 2000), the degree of investor

protection (LaPorta et al., 1997, 1998), the risk of litigation (Ball et al., 2000; Leuz & Verrecchia, 2000) and the degree of enforcement (Hope, 2003) all create opportunities for earnings management. Research which focuses on board characteristics and its relation to earnings management also provides evidence that the quality of board monitoring is impaired by the presence of CEO-duality, by the presence of interlocking CEOs and by the presence of internal or grey directors (Boyd, 1994; Beasley, 1996; Peasnell et al., 2001). The critical perspectives literature concentrates mainly on the contextual variables which facilitate or incite management to manipulate accounting numbers (e.g. Briloff, 2001; Revsine, 2002; O'Connell, 2004; Benston and Hartgraves, 2002; Lee, 2006; Williams, 2004). The results of this stream of research emphasise the importance of improved regulatory enforcement for the provision of better quality financial information to stakeholders. In the extant empirical literature these contracting inefficiencies are considered as independent and exogenous variables which explain the presence or absence of financial misrepresentation and its magnitude.

3.1.4. Framework for analysis based on the extant accounting literature (phase I)

The findings of the extant accounting literature provide the basis for the framework for analysis that will be applied in the first phase of the case study. Since we wish to study the management of accounting numbers by taking an integrated and dynamic perspective, we consider the multiple incentives which stimulate this process, the multiple choices applied to obtain the desired accounting numbers, and the available discretion which allows financial misrepresentation to happen. Figure 1 presents the relationship between the variables involved in financial misrepresentation according to the bulk of the extant accounting literature. The incentives embedded in the contracts of the firm encourage management to publish accounting numbers with specific patterns. These are the target accounting numbers. This answers the question as to why managers manipulate accounting numbers. A reporting strategy which consists of accounting and real choices will ensure that the published accounting numbers equal or almost equal the target accounting numbers. The accounting and the real choices explain how management arrives at financial misrepresentation. The available discretion has an exogenous character as well and indicates the available managerial opportunity to engage in financial misrepresentation.

3.2. Literature review: perspectives from the management literature (phase II)

All definitions of financial misrepresentation (including earnings management) point to the central role of top management in these decisions. However, the accounting literature has not taken into account the heterogeneity among top managers and its possible impact on financial misrepresentation. The purpose of this multi-theory perspective on the case data is to obtain a better understanding of the process of managing accounting numbers by combining insights from different perspectives (the accounting literature and the management literature).

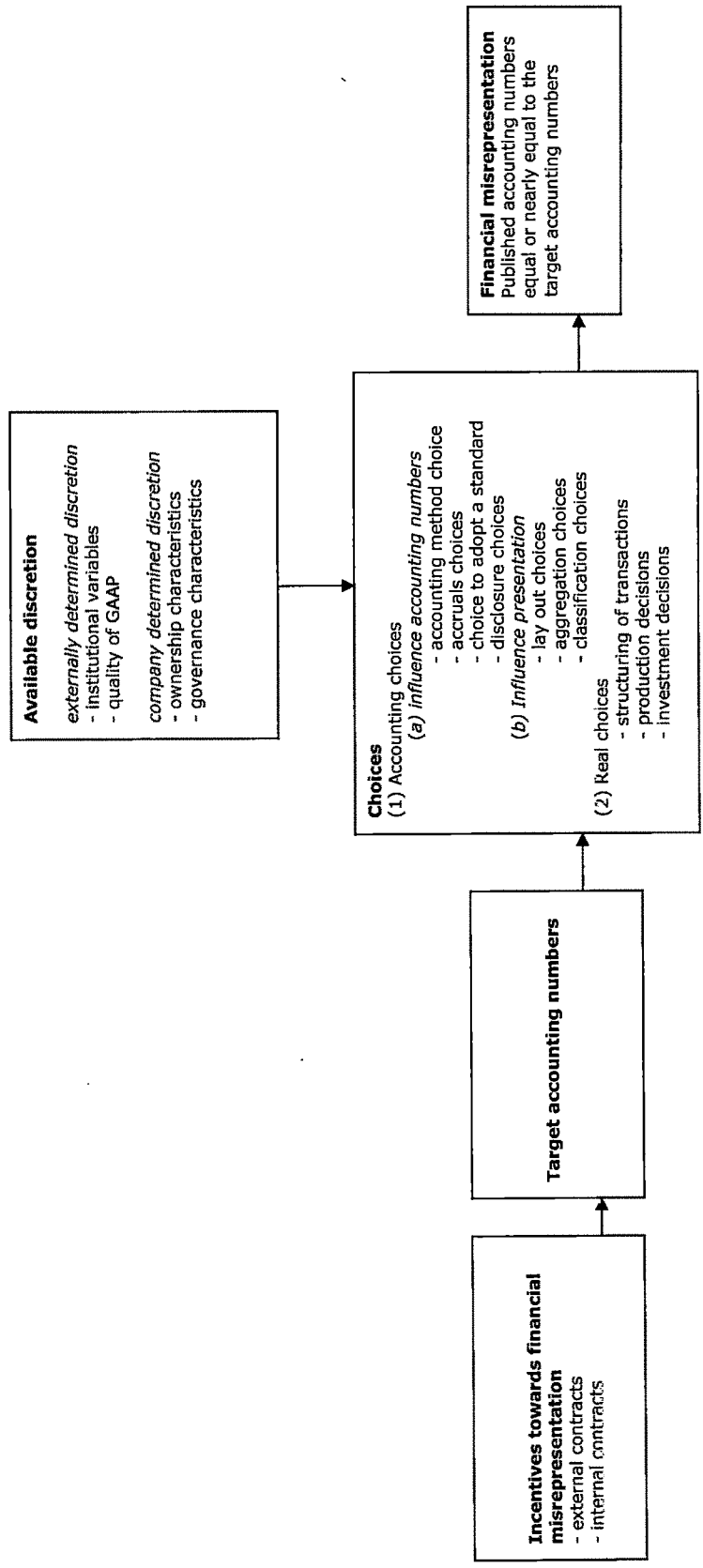
3.2.1. Upper echelons theory

Upper echelons theory suggests that executives will make decisions that are consistent with their cognitive base, including values, cognitive models and personality factors (Hambrick and Mason, 1984) and executive orientation (Finkelstein and Hambrick, 1996). A fundamental principle of upper echelons theory is that observable experiences (i.e. demographic measures such as tenure, age, functional and educational background) are systematically related to the underlying cognitive orientations and knowledge base. In these theoretical frameworks, the organisation becomes a reflection of its top executives, whereby the CEO functions as the central strategic decision-maker who is able to control the composition of the organisation's top strategy-making group (Zahra and Pearce, 1989). A large number of studies, triggered by Hambrick and Mason (1984), provide evidence that differences in CEO characteristics and top-management-team (TMT) composition (with respect to dimensions such as tenure, gender, functional and ethnic background and age) have an impact on a range of organisational outcomes such as turnover, innovation, diversification, and organisational performance (Hambrick and Fukutomi, 1991; Jensen and Zajac, 2004). This implies that a deeper knowledge of the managerial characteristics of the CEO and of the factors that determine the distribution of power among corporate managers is required to advance knowledge of the incentives which drive financial misrepresentation and how it is achieved.

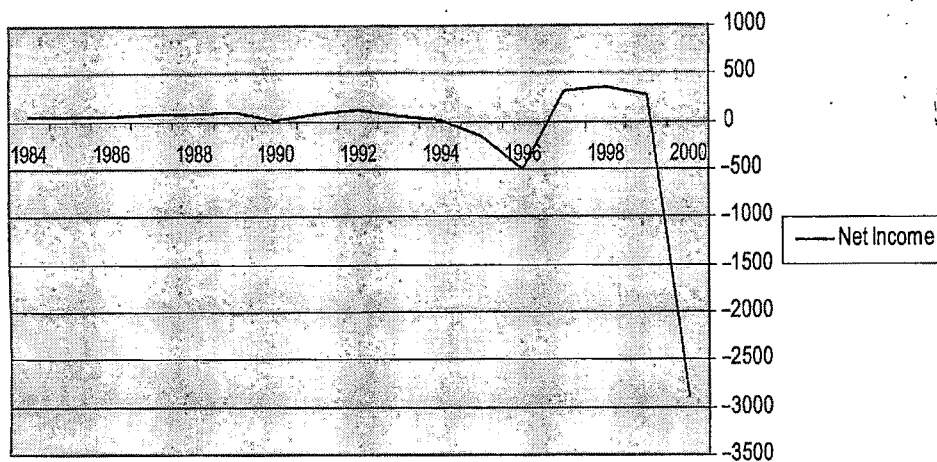
3.2.2. Power circulation theory and strategic choice theory

According to power circulation theory (Occasio, 1994; Occasio, 1999), an inside succession following a CEO dismissal reflects a successful internal power contest against the CEO, and the successor is

Figure 1
Financial misrepresentation through an accounting perspective



Graph 1
Net income Swissair/Sairgroup 1984–2000 in CHF million



a contending executive who has won the support and approval of the board of directors. Because power contestation and CEO dismissal often occur in periods of poor firm performance (Occasio, 1994; Puffer and Weintrop, 1991) contender successors will often be charged with initiating strategic change and improving firm performance. Insights from strategic choice theory reveal that CEOs often choose to initiate a strategic change which closely matches their prior pattern of strategic choice and which is consistent with their previous background.

4. The research data

To enhance the understanding of the case analysis, we now outline the main features of the company, its competitive environment and the major events that occurred during the ten-year period 1991–2001. Subsequently we explain how we collected the case information.

4.1. The Swissair/SAirgroup

The Swissair/SAirgroup was better known for its flagship subsidiary Swissair, which was active in the air transport of passengers and cargo. Its roots date back to 1919 with the establishment of the Aero-Gesellschaft Compte, Mittelholzer & Co. In 1931 this company merged with Balair and the 'Schweizerische Luftverkehrs AG – Swissair' was created. From then onwards Swissair grew and developed airline-related activities. Swissair became the Swissair Group and transformed into the SAirgroup on 1 January 2007. Swissair/SAirgroup published positive income figures year after year until the year 2000 (except for 1995 and 1996) (see Graph 1). The balance sheet numbers of the Swissair Group showed a very stable financial

structure which was the basis for the company nickname 'the flying bank'. The Swissair/SAirgroup was a listed company, quoted on the Zurich stock exchange, with dispersed ownership.

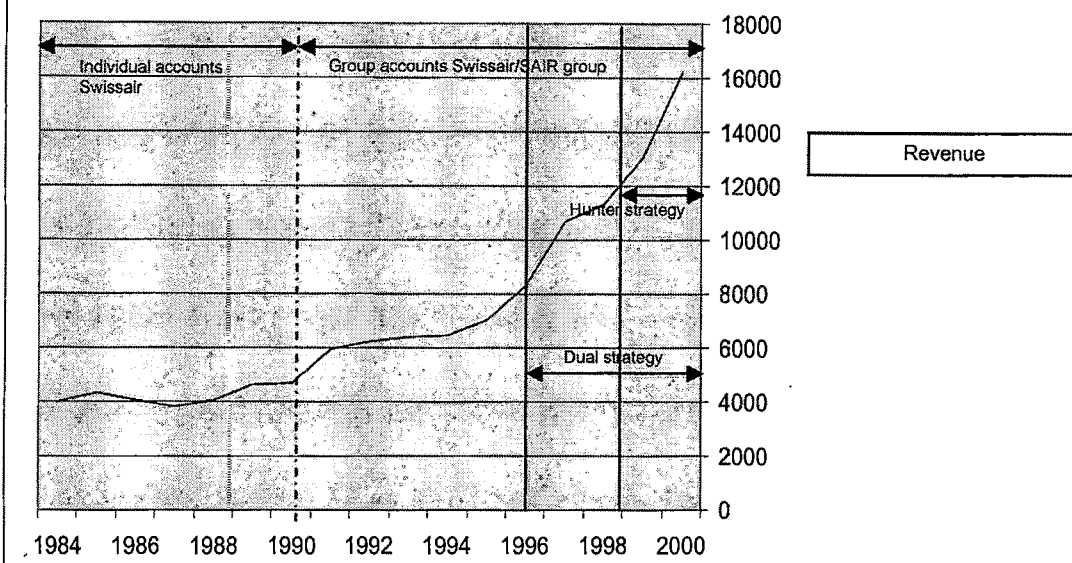
From its establishment until 1991 the Swissair group only published individual company accounts, in compliance with Swiss GAAP. From 1991 onwards the Swissair Group published consolidated accounts and therefore this year is chosen for the start of the longitudinal analysis.

4.1.1. The competitive environment

Until the early 1990s European airline profits were secure due to a high degree of regulation and price agreements. However, from 1993 onwards European skies became open for 'community carriers'² with EU airlines being free to operate across any national boundaries within the EU. Switzerland was not a member of the EU and was excluded from this arrangement. In response to this change in the competitive and regulatory environment, Swissair first tried to form an alliance (under the name Alcazar) with KLM, Austrian Airlines and SAS. This project was unsuccessful and negotiations were terminated in November 1993. As a result, Swissair had to look for other means to face the stronger competition caused by the deregulation in the EU and to circumvent their 'aero political isolation'.³ On 4 May 1995 Swissair acquired a large minority shareholding of 49.5% in the capital

² An airline qualifies as a 'community carrier' under the EU regulation (EC ordinance 2407/92 of 23 July 1993) when the majority of the capital is in the hands (in a direct way or an indirect way) of persons or companies belonging to the EU.

³ Message to the shareholders, annual report Swissair 1995.

Graph 2**Operating revenue Swissair/SAirgroup 1984–2000 in CHF million**

of Sabena, the Belgian state-owned national flag carrier.

4.1.2. The different strategies of the Swissair/SAirgroup in the 1990s

At the time of the acquisition in mid-1995 the aim of the investment in Sabena was stated to be to develop a single airline group concentrated around the two equal hubs of Zurich and Brussels. The airlines were considered to be the core business of the Swissair group although other airline-support activities were also performed. From 1996 onwards the group started to invest in the airline-support industry through majority acquisitions of companies active in the airline-support industries such as handling, catering, hotel trade, information technology, aircraft maintenance, aircraft leasing and real estate administration. This growth strategy was called the 'dual' strategy. SAirgroup management described the airline business as the first pillar and the airline support businesses as the second pillar of the group. To underscore the change in strategy the Swissair Group was renamed into the SAirgroup. Expansion in the airline business was pursued through the Hunter Strategy, whereby equity stakes in airlines were acquired in France, Germany, Italy, Poland and South Africa during 1998–2000. The revenue of the Swiss group started to increase from the launch of the dual strategy and it accelerated when the Hunter Strategy was implemented (see Graph 2).

The launch of the dual strategy was accompanied by a major change in the organisational design of

the group. After the creation of a new holding structure and the organisational re-design, the legal entity of the airline Swissair remained responsible only for passenger transport and had to buy all support services from companies which now belonged to the 2nd pillar of the SAirgroup. The legal entity Swissair was only left with off-balance-sheet (but valuable) assets such as traffic rights, slots at airports and a dominant position at its hub airport, Zurich. Even ownership of the aircraft was transferred to a new legal entity, Flightlease, which also provided leasing services for other airlines from 1998 onwards.

Despite increasing revenue and earnings in the second half of the 1990s (see Graphs 1 and 2), the SAirgroup announced a large loss for 2000.

'In the annals of our company's history the 2000 business year will be remembered as a poor one. The SAirgroup did not meet the targets established for the airline sector. The substantial losses stemming from our airline equity holdings were responsible for a very inadequate result. The SAirLogistics, SAirServices and SAirRelations divisions, forming the second pillar of our dual strategy, have either met or surpassed their performance targets.' (Letter of the Chairman – Annual Report SAirgroup 2000 – page 4)

The problems intensified during the year 2001. In July 2001 the SAirgroup divested the two French airlines it had acquired, and in August 2001 renegotiated its relationship with Sabena. On 2 October 2001 the SAirgroup filed for bankruptcy.

The fall of 2001 was characterised by a general downturn of traffic, following the events of 9/11, which resulted in pressures on company liquidity of the airlines. Consequently the SAirgroup did not fulfill agreements it had concluded with Sabena for a capital injection intended to take place in October 2001. Sabena was declared bankrupt on 7 November 2001. The speed at which the final death spiral of the Swissair Group occurred was incomprehensible to many people as, until its 2000 accounts were released in 2001, it had a record of steady improvement.

4.2. The data collection process

In the first phase of the case study we collected information over a ten-year period on incentives for financial misrepresentation embedded in the contracts governing the firm, opportunities for discretion, and accounting and real choices. Since the collection of information on all accounting and real choices with regard to all events and transactions would involve an immense amount of data, we use a disaggregated approach. According to Francis (2001) the disaggregated approach features a focus on individual accounting items known to require substantial managerial judgment and to have a significant impact on accounting numbers. This disaggregated approach has the potential advantage of yielding precise, directional predictions based on the researchers' understanding and analysis of how decision-makers trade off the incentives associated with the accounting object of the study (Francis, 2001). This disaggregated approach implies that we will combine multiple incentives with multiple choices in relation to one individual item with a substantial impact on the financial statements of the SAirgroup. Because in spring 2001 the new management team of the SAirgroup blamed the foreign airlines in which the SAirgroup invested for the financial problems of the SAirgroup (see citation in Section 4.1.2), we use the investments in foreign airlines as the accounting item of the study.

Numerous accounting and real choices are taken by SAir management with regard to the investments in foreign airlines. For the purpose of this case study we need to single out those accounting and real choices that are pursued in order to affect the output of the accounting system. According to Fields et al. (2001) the key element to classify an accounting choice or a real choice as a method used for accounting numbers' management, is its managerial intent to affect the accounting numbers. The managerial intent in our study was derived from internal archival company data and we provide

evidence of this managerial intent using extracts from company documents.

In the second phase of the case study we collected information on the CEO turnover process, CEO characteristics, top team characteristics, the strategic choice of the CEO, the internal power relations between top team members, the division of task responsibility and the performance indicators against which individual top managers are evaluated.

5. Analysis of the case data

5.1. Phase I: analysis of financial misrepresentation through an accounting perspective

In the first phase of the case study we discuss the findings with regard to the incentives, the choices and the available discretion involved in financial misrepresentation. Although the report prepared at the request of the administrator of the Swiss bankrupt airline, revealed that the financial statements of 1999 and 2000⁴ did not present the underlying economic position in a fair way, we try to unravel whether the roots for this financial misrepresentation lie earlier than 1999. At the end of phase I we relate these findings to the extant accounting literature, in order to find out whether this literature is able to provide a comprehensive explanation for the observed phenomena.

5.1.1. The existence of contractual incentives towards financial misrepresentation

Reviewing the external contracts we discover strong incentives embedded in three different types of contracts. These are the contracts with the shareholders, with the debt holders and with regulatory authorities.

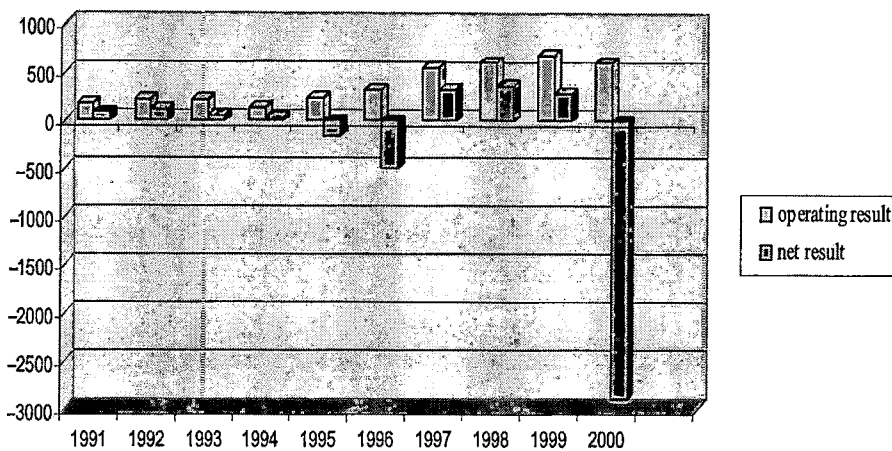
5.1.1.1. Contracts with shareholders

The Swissair/SAirgroup was a listed company. In the first half of the 1990s the communication with the shareholders concentrated mainly on operational information about the airline activities. In the second half of the 1990s the external contract with the shareholders became more important, since the growth policy of the SAirgroup was partly financed through share issues⁵ and shares of the SAirgroup were used as consideration in the

⁴ The administrator of the bankrupt Swiss Group had asked in the investigation report to analyse the financial years 1999 and 2000.

⁵ In 1999 shares were issued for a value of CHF 325m through the exercise of conversion rights and staff bonus distribution (Annual Report 1999).

Graph 3
Swissair/SAirgroup operating result and net result in CHF million



Source: Financial Statements Swissair Group/SAirgroup.

acquisition deals.⁶ From 1997 onwards the accounting numbers presented an image of value creation with increasing revenue, increasing earnings and increasing cash flows after the launch of the dual strategy (see Graphs 1 and 3). This higher level of earnings was evident over the years 1997, 1998 and 1999 (see Graphs 1, 2 and 3).

In this period the communication in the annual report underlined these characteristics of the accounting numbers (for illustrative extracts see Table 1).

5.1.1.2. Contracts with debt holders

To finance the growth strategy of the SAirgroup, debt financing⁷ was also used. In 1997 the top management of the SAirgroup learned (minutes of the Finance Committee, 18 August 1997) from a report prepared by a Swiss university professor that, in order to receive a favourable credit rating on the debt market in the coming years, the SAirgroup needed to obtain an equity/total debt ratio ('eigenkapitalquote') between 25% and 35%. The finance committee was told that the current equity/total debt ratio (17.8%) was too low in comparison with competitors to obtain a favourable credit rating. The lower target ratio of 25% was almost attained in 1999 (see Table 2), and the concern to adhere to this target financial structure is found in several internal documents of the SAirgroup as well as in the

external communication of the SAirgroup (see Table 2).

5.1.1.3. Contracts with regulators

Over the period of our study, the EU Regulation on air transport did not change. This meant that only EU-community carriers were allowed to operate freely across national boundaries within the EU. Sabena would lose its community carrier status if the EU were to conclude that the SAirgroup had control over Sabena. The Swiss Aviation Regulation did change during the period of study. At the end of 1998 a revision of the Swiss Federal Aviation Act abolished the need for board representation by the public institutions and paved the way for a reduction in size of the Board of Directors.⁸ After this change in Swiss Regulation the Board of the SAirgroup was reduced from 20 members to 10 members.

5.1.1.4. The internal contracts of the firm

The threat of a performance-related CEO-turnover is always present during the period of our study. The explicit internal contracts with regard to remuneration changed twice over the period of the study. The contracts were changed in 1996 (to take effect from 1997 onwards) and in 2001. From 1997 until 2000, rewards were linked to the SAirgroup earnings and to the EBIT-figure of the strategic business unit within the SAirgroup to which each manager belonged. From 1997 onwards SAir top executives received stock options with very short exercise

⁶ For example, for the planned increase in the shareholding of Sabena from 62.5% up to 85% (note 11 Financial Accounts SAirgroup 2000).

⁷ In 1999 the SAirgroup issued new bonds for a total amount of 1400m CHF (note 24 of the financial statements 1999) and 920 m CHF bonds were placed in 2000 (note 17 of the financial statements 2000).

⁸ Pursuant to Art. 762 Swiss Code of Obligations, the Company confers upon public authorities the right to nominate 10 representatives on the Board of Directors.

Table 1
CEO messages on the accounting numbers of the SAirgroup in subsequent annual reports

'1997 was a truly positive year for the SAirgroup, aided by various strategic and operational measures and having the benefit of a favorable economic environment, the Group was able to move clearly back into positive territory... Consolidated group results exceeded all expectations' (Annual Report 1997, page 8).

'Overall Group operating revenue was higher than both the previous year and budgeted expectations. The operating results and net profit were both improvements on prior-year levels' (Annual Report 1998, page 9).

'This two pillars or dual strategy is based on our desire for long-term success. The airline business with its cyclical nature and fluctuating revenue streams, has been linked with the airline-related activities to form an aviation group that provides investors with a safer and steadier earnings flow – Our goal in all these endeavors is to achieve consistently solid results that balance out cyclical tendency of the airline sector...' (Annual Report 1999, page 6–7).

Table 2
Evolution of the equity/total debt ratio over 1996–2000 and quotations on this issue

'In the medium term the Group aims to strengthen equity funds by retaining a proportion of profits, and achieve a balance sheet equity ratio of at least 25% while keeping its net debt/equity ratio below 1' (Annual Report SAirgroup 1998, page 11).

'Currently Sabena's balance sheet contains a liability of 98 Billion BEF. This is the main reason why Swissair cannot consolidate Sabena because the market capitalisation of Swissair is at the level of 1.2 billion Swiss Francs'. (Extract from a letter of the CEO of Sabena to the President of the Commercial Court in Brussels, 28 June 2001).

	1996	1997	1998	1999	2000
Equity/total debt	17.8 %	19.3%	20.3%	24.1%	5.7%

Source: Financial Statements of the SAirgroup 1996, 1997, 1998, 1999 and 2000.

periods (three years). From 1999 onwards Sabena top management joined the SAirgroup top management reward system and received stock options in SAir shares as well as bonuses partly determined on the basis of SAirgroup earnings.

The analysis of these contracts reveals the presence of multiple incentives to influence a variety of accounting numbers in a number of ways, such as reporting steadily increasing earnings, achieving a target equity structure and the preservation of the impression that the Swissair/SAirgroup did not control Sabena. The accounting numbers published by the SAirgroup, especially in 1997, 1998 and 1999, appeared to respond to these multiple incentives, 1996 and 2000 seemed to be different. In the next section we will argue which accounting and real choices with regard to the airline investments contributed to the management of these communicated accounting numbers.

5.1.2. Choices employed to influence the accounting numbers of the SAirgroup

Following the directionality assumed in the extant accounting literature (see Figure 1), we now

compile from our archival data, the accounting and real choices in relation to the investment in Sabena. We will present the choices with regard to the Sabena investment in a matrix format classified by chronological order and by the type of choice using the classification of Francis (2001). Subsequently we will execute a cross-case analysis of the choices taken in relation to all the EU-Hunter airlines.

5.1.2.1. The choices with regard to the investment in Sabena

Table 3 presents the accounting choices with regard to the Sabena investment. Two types of accounting choices (namely an accounting method choice and accruals choices) with a major impact on the financial statements will be discussed in depth as they will allow us to observe the directionality between some of the variables involved in financial misrepresentation.

a. The accounting method choice

The essence of the investment in Sabena in mid-1995 was to foresee through several contracts a

Table 3
Accounting choices in relation to the investment in Sabena

A. Influence on accounting numbers

	1995	1996	1997	1998	1999	2000
Accounting method choice	Equity method	Equity method	Equity method	Equity method	Equity method	Equity method
Accruals choice		- Write-down of investment - Creation of provisions				- Creation of provisions for future losses and future commitments
Adoption standard	7th EU Directive and Swiss GAAP	IAS	IAS	IAS	IAS	IAS
Disclosure choice	Emphasis on airline statistics		Disappearance of the detailed statistics on passenger transport. Creative segment reporting : results from passenger transport combined with results from leasing activities			Split between passenger transport results and leasing results

B. Influence on presentation

	1995	1996	1997	1998	1999	2000
Classification choice - With regard to the results from airline investments	Results from associated companies	Operating results	Operating results	Operating results	Operating results	Results from associated companies
Aggregation choice - Write-down of the airline investments (1996) - Provision for future losses (2000)		Single line item				Single line item
Lay-out choice - Write-down of the airline investments (1996) - Provision for future losses (2000)		Extra-ordinary results				Extra-ordinary results

framework which made it possible for Swissair to take control over Sabena, while it apparently remained an EU airline. The consulting report 'Flair', prepared by a well-known consulting firm at the request of Swissair in relation to this acquisition, pointed out this critical element in making the acquisition successful. On 4 May 1995 Swissair acquired not only a large minority shareholding of 49.5% in the capital of Sabena, but in addition granted a loan of 151m Swiss francs (CHF) to the Belgian government which held the remaining 50.5% of the share capital. This loan entitled Swissair to raise its equity holding in Sabena from 49.5% to 62.25% when the bilateral agreements between Switzerland and the EU changed at a future date, and Sabena would no longer lose its 'community carrier' status by having a Swiss majority owner. So in 1995 SAirgroup had already prepaid its expected future capital investment in Sabena.

Further, through the terms of the different agreements (the Shareholders' and Management Agreement (SMA) and the Cooperation Agreement (CA), Swissair was able both to draft documents to formally comply with the EU Regulation on

transport and also to obtain a substantial amount of management power and control in substance over Sabena. The SMA⁹ signed between Swissair and the Belgian State on 4 May 1995, obtained EU approval on 18 July 1995. Meanwhile, after the Swiss directors had taken their seats on the Board of Sabena in May 1995, negotiations on the Cooperation Agreement between Swissair and

⁹ The SMA stipulated that the Board of Directors of Sabena consisted of 12 members from which at least seven had to be EU citizens. Six out of those 12 directors were chosen by the Belgian government, five were appointed by the Swissair/SAirgroup and one director namely the Chairman of the Board had to be chosen in consensus by the Belgian government and the Swissair/SAirgroup. If no consensus could be reached the Swiss shareholder could appoint a candidate (art. 7 of the SMA). For the removal of the directors a special majority was needed, this implied that a Belgian director representing the Belgian government could not be removed without the approval of the Swiss shareholder. The addendum of 12 June 1995 to the SMA stated further that the appointment of a CEO had to be approved by the majority of the members of the Board of directors. The CFO and the middle management of Sabena could be proposed by Swissair (addendum 7 to the SMA). Further, according to the SMA, the decision to hire and fire top managers in the Sabena Group was in the hands of the CEO of Sabena, who needed the approval of the Board to execute these decisions.

Sabena started among the Board members of Sabena. On 24 July 1995, a couple of days after the EU approval of the SMA agreement, the Cooperation Agreement was finally negotiated and signed by the members of the Board of Sabena. The Cooperation Agreement foresaw the establishment of a Steering Committee, which would negotiate and take operating and strategic decisions for both airlines.

In 1995 the Swissair Group prepared its group accounts according to Swiss GAAP and the Seventh Directive. Swissair, based on the legal form of the SMA, chose to account for Sabena using the equity method as it formally held only a 49.5% minority stake. In 1996 the SAirgroup switched to IAS standards for the preparation of its group accounts. The IAS standards are principles-based standards and define the principle of control in general as 'the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities' (IAS 27, para. 4). Guidance on this principle of control is included in IAS 27, para. 13 (see Appendix B). Further the conceptual framework of the International Accounting Standards Committee states explicitly that transactions should be accounted for in compliance with their economic substance rather than with their legal form (IASB, 1989: para. 35). Despite the emphasis on economic substance in the international accounting standards, the SAirgroup continued to account for Sabena using the equity method in the second half of the 1990s. Even when in the late 1990s, due to the centralisation of decision-making of Sabena's passenger and cargo transport in SAir hands and the integration of Sabena's airline-support activities within the SAirgroup (see section real choices), the equity method was no longer appropriate for presenting a true and fair view of the underlying economic situation, the SAirgroup continued to use it. The investigator appointed by the Administrator of the bankrupt airline, came to the same conclusion.¹⁰

Full consolidation of Sabena in the books of Swissair could have been interpreted by the EU as evidence that Swissair was controlling Sabena, so it appears that the equity method continued to be used to avoid such a risk. The choice of the equity method instead of full consolidation does not create any difference with regard to the published earnings of the Swissair Group and the equity of the Swissair Group (see also Appendix C: illustration of the impact of the accounting choices of the Swissair/SAirgroup on the accounting numbers – Examples

1 and 2). Only the debt structure of the Swissair Group benefited from this choice, since it enabled the Swissair Group to keep the liabilities of Sabena off their own balance sheet (see Appendix C).¹¹ This debt structure however was crucial to obtain a favourable credit rating from rating agencies (see Section 5.1.1.2).

b. Accruals choices with regard to the Sabena investment

Both companies (the Swissair Group and Sabena) showed a net loss in 1995, the year of the acquisition. Graphs 3 and 4 (Sabena group) indicate that both groups realised an operating profit and that the net losses were mainly the result of accruals decisions (provision for restructuring – Swissairgroup, Annual Report 1995, page 10, note 9 and exceptional provision for fleet renewal – Sabena Group Annual Report 1995, page 5).

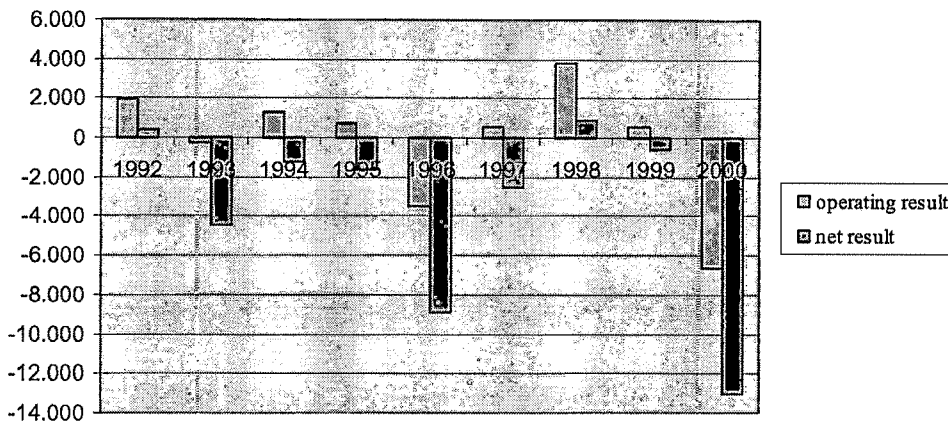
In 1996 two major accrual choices were taken by SAir management in relation to the airline investments. The first accrual choice was the creation of a large provision for future airline restructurings. The second accrual choice consisted of a complete write-down of the value of the investment in Sabena in the books of the SAirgroup. From 1997 onwards a situation 'technically similar' to IAS 28 (para. 22) was created through this prior write-down, which allowed for an investor's share of losses of an associate no longer to be recognised on its annual accounts if they equal or exceed the carrying amount of that investment. Although the loss made by Sabena in 1996 was indeed substantial (see Graph 4), the recognition of the SAirgroup's share in the loss of Sabena would not have reduced the investment in Sabena in the books of the SAirgroup to zero in 1996.¹² Further this loss in Sabena for 1996 resulted to a large extent from accruals choices, namely the creation of provisions and the recording of large amounts of extraordinary depreciation. The communication around these accruals by the Sabena Board of Directors was as follows:.

'In order to smooth the return to profitability the Board of Directors has decided to introduce some major one-off charges in 1996 to cover restructuring costs in the Horizon '98 plan and further

¹⁰ 'The investigation report' Ernst & Young Bericht in Sachen Swissair, January 2003.

¹¹ Full consolidation would have weakened the 'eigenkapital ratio' or equity/debt ratio of the SAirgroup, since the equity/debt structure of Sabena was much weaker (12.9% in 1997; 12.9% in 1998; 9.9% in 1999 and -0.03% in 2000 – source: annual accounts of Sabena).

¹² 49.5% of the loss of Sabena was an amount of 177m CHF. The carrying value of the investment in Sabena in the books of the SAirgroup during 1996 was CHF 267m.

Graph 4**Overview of the operating result and the net result of the Sabena Group in BEF million**

Source: Financial Statements of the Sabena Group.

depreciation for the long-distance fleet. – The Horizon '98 plan points the way to a return to profitability in 1998' (Annual Report Sabena Group, 1996: 5, message of the Board of Directors).

The SAirgroup's accounting choice, to write down completely the investment in Sabena, was accompanied with press releases (in Switzerland and in Belgium) stating that the write-off did not imply that the SAirgroup would terminate its co-operation with the Sabena Group, but rather that further integration was planned. The consequence of the write-down was that losses of Sabena would no longer influence SAirgroup earnings. This managerial intent of shielding the earnings of the SAirgroup from the losses of Sabena in the future was revealed in company documents (see Appendix D for the English translation as well as the original French version of the text).

In 2000 we observe again a major accruals choice with regard to the investment in Sabena. These accruals consisted of a provision for future losses and future commitments with regard to all the foreign airline investments, despite the fact that the investment in Sabena was already reduced to zero. A provision for future losses is both surprising and unnecessary, since the write-down in 1996 ensured that future losses of Sabena would no longer influence the SAirgroup's earnings in a negative way.

c. Real choices with regard to the Sabena investment: 1996–2000

In 1996 the SAirgroup started to use the possibilities foreseen in the SMA and CA for taking control in

substance over Sabena, despite having only a minority stake (49.5%). In February 1996 new subcommittees of the Board of Directors of Sabena were created. In the finance subcommittee SAir employees held 50% of the votes and in the remuneration committee SAir employees held the majority of the votes. From early 1996 onwards the positions of CEO and CFO of Sabena were occupied by employees of the SAirgroup who had their incentive and reward contracts tied to the earnings of the SAirgroup. Following these appointments (CEO and CFO), the majority of the members of the Swissair/Sabena Steering Committee consisted of SAirgroup employees. This Steering Committee was in charge of the operating decisions of both airlines.

The activities of Sabena, like the activities of the SAirgroup, consisted of airline activities (passenger and cargo transport) and airline-support activities. As soon as SAirGroup employees held the majority in the Steering Committee and the Swiss CEO of Sabena, together with a number of SAir employees, occupied executive management positions in the Sabena group,¹³ Sabena's airline-support activities (e.g. IT-services, catering services, ground handling services, maintenance of the new-generation engines, D-Checks on the Sabena Airbus fleet) were gradually outsourced over the years to the 2nd

¹³ An e-mail request of the Secretary General of the SAirgroup to the Secretary General of the Sabena group on 10 April 2001 with regard to which SAirGroup employees did serve on the Board of Sabena or on the Executive Management of Sabena or on lower but important management functions revealed the following information. Besides the CEO and CFO, the project leader for the business development plan 1998–2000 of Sabena and the Vice President Marketing and Product were also SAirGroup employees.

Table 4
Real choices with regard to the investment in Sabena

	1995	1996	1997	1998	1999	2000
Structuring of investment deal	- 49% ownership - Control through other contracts				AMP internal creation	AMP legal creation (50%/50%)
Centralisation of airline activities under SAir top management - cargo transport (Swiss cargo) - passenger transport (AMP)			X	X	X X	X X
Outsourcing of airline-support activities to SAir group						
- IT services (SAir Services)		X	X	X	X	X
- Catering (SAir Relations)						
- technical assistance			X	X	X	X
- outstations				X	X	X
- Handling (SAir Services)						
- outstations				X	X	X
- Fleet maintenance (SR Technics)						
- heavy maintenance Sabena airbus fleet (C&D-checks)					X	X
- new-generation engines						X

pillar or the airline-support strategic business units of the SAirgroup (see Table 4 and contracts in Appendix A). The operating decisions with regard to Sabena's airline activities (cargo and passenger transport) were gradually centralised in the hands of SAir management (see Table 4 and the contracts in Appendix A).

The first outsourcing related to the IT-activities of Sabena to the SAirgroup:

'Atraxis' first year as an independent information technology company of the SAirgroup was very challenging... Several reservations and handling systems were delivered to third party customers and made operational, including the complete migration of the Sabena booking and handling system.'

(Annual Report SAirgroup 1996, page 18)

If this outsourcing of activities had taken place using arm's-length transfer prices, these decisions could be seen as normal operating decisions. However, due to the use of not-at-arm's-length transfer pricing, benefits were transferred from Sabena to the airline-support strategic business units of the SAirgroup. The managerial intent of transferring benefits through this outsourcing process is admitted, in the agreement signed on 2 August 2001 between the SAirgroup, the Belgian State and Sabena in point (ii) of article 6.3 (see Appendix E). *

In addition to the outsourcing mechanism, the SAirgroup obtained further benefits from the centralisation of the operating decisions on Sabena's cargo and passenger transport in the hands of SAir top management. As a result of the centralisation,

SAirgroup management obtained control over Sabena's revenue from cargo and passenger transport. This mechanism has been referred to in point (iii) of the agreement of 2001 (see Appendix E).

From 1997 onwards, decisions with regard to Sabena's cargo transport were made solely by SAir management.

'On December 16th 1996, Swisscargo and Sabena signed an agreement whereby Swisscargo's distribution network would market the entire freight capacity of Sabena's fleet of aircraft as of January 1, 1997. Swisscargo thereby enlarged its freight capacity by almost one quarter and is taking full advantage of the chance to create a cargo hub in Brussels'.

(Annual Report SAirgroup 1997, page 20)

In practice this meant that Swisscargo, being part of SAirlogistics, earned revenue from transporting the cargo in the 'belly-space' of Sabena aircraft.¹⁴ Sabena received a reimbursement which did not even cover the direct costs of transporting the cargo. In 1997 the revenue earned from this cargo assumption represented 13% of the revenue of SAirlogistics.¹⁵

The centralisation of Sabena's passenger transport business in the hands of SAir management followed in 1999. We explain this centralisation in more detail as it will be used later to illustrate the

¹⁴ Results for 1997 also include the assumption by Swisscargo of Sabena's cargo business, which increased the relevant operating revenue item by CHF 160m (Annual Accounts SAirgroup 1997, page 16, note 1).

¹⁵ The total revenue reported by SAirlogistics in 1997 was CHF 1,221m (Annual Accounts SAirgroup 1997, page 14).

variables used to create the necessary financial reporting discretion in order to record accounting numbers in line with the target accounting numbers. Together with the investments in other airlines, the Hunter Strategy (developed during the winter 1997–1998) also foresaw a change of the hub concept. Instead of organising passenger transport around two hubs (Zurich and Brussels, whereby inter-continental travel was organised from the two hubs onwards), the Hunter strategy foresaw only one central hub for the whole group, namely Zurich. The purpose of this single, central hub was to increase inter-continental travel from the Zurich hub (implying use of the Swissair fleet and increasing Swissair's passenger revenue). A consulting report, prepared in October 1997, stated that passengers could be persuaded to take less obvious choices through, for example, price advantages or loyalty schemes and passengers could be re-routed through the Zurich hub by such mechanisms.¹⁶

In order to execute this idea, the important decisions in relation to passenger transport (i.e. marketing, sales, network planning and revenue management) of the airlines Swissair and Sabena were centralised in the newly created Airline Management Partnership (AMP) from mid-1999 onwards. The top management of AMP consisted of three SAirgroup employees namely the CEO of the SAirgroup, the CEO of Swissair and the CEO of Sabena. The CEO of the SAirgroup had the ultimate decision-making power in the AMP. The underlying legal form of the AMP was created mid-2000 and took the form of a partnership whereby the shares were held 50% by Swissair and 50% by Sabena. This legal contract was referred to the EU authorities. By pricing decisions (changes in the fare structure of tickets), promotion decisions (the awarding of miles) and by network decisions for both airlines (a rescheduling of the timetables), AMP top management was able to influence the buying behaviour of customers (i.e. many passengers, especially business passengers, now boarded Swissair inter-continental flights instead of Sabena inter-continental flights). These mechanisms caused a passenger revenue shift from Sabena to Swissair, while the direct operating costs for flying to the destinations remained with the individual airlines. The impact of this mechanism on the results of the airlines can be derived from SAirgroup's information provided on the cost structure of the airlines in their prospectuses.¹⁷ Through centralisation of passenger transport decisions SAir top management

now controlled 80% of revenue of the Sabena Group through AMP.¹⁸ It is therefore no surprise that in the prospectus issued by the SAirgroup for placements of public debt (11 November 1999 US\$350,000,000 – 7.5% guaranteed notes due 2004, page 24) SAir management described the vehicle of AMP (referred to as 'project Diamond') as 'a virtual merger of Swissair and Sabena'. The losses to Sabena as a result of these real choices (outsourcing and centralisation) would not show in the SAir group earnings because of the write-down of the investment in 1996.

By considering the time-ordered presentation of choices (see Tables 3 and 4) with regard to the investment in Sabena, we distinguish an underlying pattern. At acquisition, real choices (contract structuring) in combination with accounting choices were used to ensure that the investment formally complied with the EU Regulation, while allowing control in substance to be taken. Next the investment was written down and the restructuring of activities started, whereby benefits were transferred from Sabena to the SAirgroup. However, the provisions for future losses in 2000, do not seem to fit into the pattern. It is surprising that a provision for future losses is recorded, since the write-down of 1996 ensured that future losses of Sabena would no longer influence the SAirgroup's earnings in a negative way. In order to find out whether these observed patterns are a coherent set of choices, we compare them with the choices made in relation to the EU-Hunter airline investments.

5.1.2.2. Choices in relation to the investments in other EU airlines – the Hunter strategy

The 'Hunter Strategy,' also foresaw alliances with other European national airlines:

'The intended expansion of Swissair was focused on countries, airports and markets with large growth potential (Belgium, Austria, Finland, Hungary, Portugal and Ireland), and not on the

¹⁶ This element is also included in the minutes of the Executive Board of the SAirgroup, 19 January 1998.

¹⁷ Prospectus SAirgroup 5 October 2000, €400,000,000 – 6.625% guaranteed bonds due 2010 – page 43: The very nature of the airline business is such that a carrier's operations are highly leveraged. Each flight has fixed costs such as fuel, fees and labour, while revenue from the flight depends entirely on the number of passengers or cargo carried and the fares paid. This means that any decrease in the number of passengers or cargo carried and/or fares paid results in a disproportionately greater decrease in profits. On the other hand, any increase of customer demand which significantly exceeds planning may, in connection with a limited extension of capacity, lead to substantially higher average proceeds per flight.

¹⁸ Total revenue of the Sabena Group in 1999 is €2,370m, whereby revenue from flight operations in 1999 is €1,929m (note C to the consolidated profit and loss account of Sabena, Annual Report 1999, page 18).

Table 5
Overview of the investments made under the Hunter Strategy

<i>Year</i>	<i>Country</i>	<i>Company</i>	<i>% of shareholdings</i>
1998	Germany	LTU	49.90
1998	France	Air Litoral	49.00
1998	Italy	Air Europe	49.90
1998	Italy	Volare	34.00
1999	France	AOM	49.50
1999	Poland	LOT	37.60
1999	South Africa	SAA	20.00
2000	Italy	Volare Group out of Air Europe and Volare	49.79

Source: Annual Reports of the SAirgroup 1998–2000.

mature markets such as Germany, France and Italy. In addition, the Zurich airport was to be used as a central hub and expanded. The Hunter strategy was conceived as a moderate investment strategy with clearly minority investments (10%–30%) and defined capital requirements (CHF 300 million).¹⁹

The first acquisitions following adoption of this strategy took place in autumn of 1998 and were followed by further acquisitions in 1999. However, the type of companies acquired and the terms of acquisition did not match the originally conceived strategy (see citation above), as shown in Table 5.

In a similar way to the Sabena investment deal, the SAirgroup in fact controlled these airlines through agreements.

‘The starting point led Swissair to formally comply with the EU ordinance, but de facto to circumvent this regulation. In order to obtain direct management control immediately as well as to formally insure the subsequent takeover of a majority interest, the Group had to resort to complex and difficult management structures, call/put options, portage solutions, guarantee commitments, as well as multiple tiered and non-transparent intermediate financing’. (Investigation undertaken at the request of the Administrator of the SAirgroup regarding Swissair, press release).

¹⁹ See press release accompanying the report ‘Results of the investigation regarding Swissair’.

As well as the similar structuring of contracts we discovered many other similarities (see Table 6).

The data in Table 6 show an almost identical pattern of accounting and real choices in relation to all the nearly-majority acquisitions in EU-airlines except for the presentation choice of the write-downs of the EU Hunter airlines (see Tables 3 and 5). We interpret this as a repeated application of a pattern of choices that had been shown to be useful to date in attaining the desired accounting numbers. In the next section we examine the discretion that was available to management to pursue the publication of the target accounting numbers.

5.1.3. Analysis of the available accounting discretion

Management can only make choices when they have the discretion to do so. Following our framework for analysis (see Figure 1), we look for variables which influence the available discretion through an analysis of the institutional environment and company characteristics (ownership and board characteristics). Regarding institutional elements we note that the Sabena investment and the EU Hunter investments were made in countries which are characterised by lower quality accounting standards (Ball et al., 2000; Ali and Hwang, 2000), a lower degree of investor protection, a lower risk of litigation and a lower degree of enforcement (La Porta et al., 2007, 2008; Hope, 2003). So all EU airline investments were made in countries where the institutional environment allowed more accounting discretion.

Regarding company characteristics, we observe that all the EU airline investments were made in non-listed companies. After the investment deal with the SAirgroup, the ownership structure of each of the EU Hunter airlines was changed into a concentrated ownership structure with two major shareholders. Sabena already had this ownership structure at the time the investment was taken. Agency research shows that the degree of ownership concentration affects the nature of contracting. Research results are available that demonstrate that accounting informativeness tends to decline as ownership concentration increases (Dempsey et al., 1993; Warfield et al., 1995; Donnelly and Lynch, 2002; Fan and Wong, 2002). We conclude that we not only observe a pattern of identical real and accounting choices (see Tables 3, 4 and 6) with regard to Sabena and the EU Hunter airline investments (except for the presentation choice with regard to the write-down) but also that the company characteristics and the institutional environments of these airlines are similar.

Table 6
Choices with regard to the EU Hunter airlines

Accounting choices

Influence on accounting numbers

	1998	1999	2000
Accounting method choice	Cost method (LTU and Air Europe) Equity method (Air Litoral and Volare)	Equity method all airlines	Equity method
Accruals choice	Write-down Air Litoral	Write-down other EU-Hunter airlines	Provisions for future costs and future commitments

Influence on presentation

	1998	1999	2000
Classification choice - Results from airline investments	Operating results	Operating results	Results from associated companies
Aggregation choice - The write-downs (1998 and 1999) - Creation of provision for future losses (2000)	Aggregated with positive accruals from the release of a provision created in 1996 (see Table 3)	Aggregated with positive accruals from the release of a provision created in 1996 (see Table 3)	Single-line item
Lay-out choice - Write-down of airlines - Provision for future losses and commitments	Not visible on income statement, low quality of disclosure in notes	Not visible on income statement, low quality of disclosure in notes	Extra-ordinary item

Real choices

	1998	1999	2000
Investment decisions in airlines	49% shareholding and drafting of contracts	49% shareholding and drafting of contracts	
Outsourcing of support activities to SAir group (see citation *)		X	X
Centralisation of cargo and passenger transport under SAir management (see citation **)		X	X Planned to join AMP in the future

* 'The SAir has amalgamated the charter activities of Balair, Sobelair, LTU, Air Europe and Volare into the European Leisure Group.'
(Annual Report 1999, page 15)

If we analyse the board characteristics of the SAirgroup (size, composition) we observe changes over the time span analysed (1991–2000). At the end of 1998 a revision of the Swiss Federal Aviation Act abolished the need for board representation by the public institutions and paved the way for a reduction of the Board of Directors. Most of the

Board members saw their directorship come to an end early in 1999. This implies that when Hunter investments had to be approved by the Board, many of the members were at the end of their mandate. The short-term horizon problem, which is studied in relation to CEOs, might also be an issue in the governance process by boards. 'Short term horizon'

in relation to boards might not imply an extra incentive to manage earnings, but could point to the conclusion that their desire to monitor might be less.

Many Board members of the SAirgroup held identical multiple directorships. After the Board reform, the majority of the Board members of the SAirgroup were also directors of a financial institution which financed not only the SAirgroup, but also other companies in the airline value chain, namely aircraft manufacturers (the manufacturer of Airbus) and the Zurich Airport. If the same identical inter-corporate directorships are present in the composition of the Board of Directors independence might suffer, since it is an open question which company's interests would have priority in case of conflict.

5.1.4. An accounting perspective on financial misrepresentation

Analysing the multiple incentives, multiple choices and available discretion through an accounting literature perspective (see Figure 1) we find a number of items which cannot be adequately explained by this accounting literature. We observe unexplained elements with regard to incentives, the accounting choices and the available discretion. According to this literature, incentives embedded in contracts are explanatory variables and exogenous in relation to the presence of financial misrepresentation. The remuneration contract however was rewritten twice and it seems that the contract was rewritten in such a way to allow the choices which were necessary to facilitate the financial presentation of the target accounting numbers. The bonuses available from 1997 onwards benefited from accounting choices made in 1996. The new CFO of the SAirgroup, appointed in July 2001, was surprised that the favourable impact of the not arm's length transfer prices was not eliminated from the airline-related SBU figures for evaluation and bonus determination purposes (see investigation prepared at the request of the Administrator of the bankrupt Swissair Group). Further we notice that the change in Swiss Aviation Regulation (change in external contract) had an impact on Board characteristics. This impact coincided with the time period that Board members were asked to approve the Hunter Strategy.

Concerning the accounting choices, two elements are difficult to understand. First the question arises why the write-down of Sabena (1996) is presented in a different manner than the write-down of the EU Hunter airlines in 1998 and 1999 (see Tables 3 and 6). Second it is difficult to understand, from an accounting point of view, why a provision for future

losses is created in the 2000 annual accounts for investments already fully written down (Sabena – 1996; Air Litoral – 1998; other EU airlines in 1999).

Finally, the CEO of the SAirgroup needed discretion to transfer benefits from one unit of the group to another unit. This discretion is not explained by the variables uncovered by traditional accounting research. Other mechanisms must be used to allow such transfers to happen. As all definitions of financial misrepresentation and earnings management point to the central role of top management in the decision to engage in the management of accounting numbers, we now borrow insights from management theories in order to find explanations for the elements listed in this section.

5.2. Phase 2: A management theory perspective on financial misrepresentation

In this second phase of the case study we introduce insights from upper-echelons theory, strategic choice theory and power circulation theory. We collect data on CEO characteristics, CEO succession, the composition of top management teams, the strategic choice of the CEO and the distribution of responsibilities among top teams. These elements are presented in Table 7 below.

Consistent with power circulation theory, in 1996 the new CEO started a strategic change which closely matched his prior pattern of strategic choice, which is consistent with his previous background and which brought him to the top of the SAirgroup. In the early 1990s this CEO had successfully implemented a growth strategy in the legally independent division of the Swissair Group, Swissair Associated Companies (SAC) which was active in the catering and the hotel business. That growth strategy was characterised by acquisitions and by outsourcing the catering activities of Swissair to the SAC from 1993 onwards. These strategies are consistent with his financial background as, before running the SAC, he had worked for a Swiss bank in the 1980s. Research in the management literature suggests that people with a financial background typically regard firms as a collection of assets that need not be associated with a single line of business (Jensen and Zajac, 2004). The CEO diversified the corporate strategy of the Swissair/SAirgroup by launching his 'dual' strategy. This event can be interpreted as supporting a variant of the ability-matching model which suggests that a CEO may attempt to increase his value to the firm by changing the business mix of the firm to one for which his managerial skills are uniquely well suited (Shleifer and Vishny, 1989). The dual strategy was a

Table 7
Events related to the CEO based on the management literature

	Pre-1995	1996–2000	2001
CEO succession	Internal	Internal	External
CEO-turnover	Unplanned - performance related (1995)	Unplanned - performance related (January 2001)	
CEO-background	Airline industry	Financial	Financial
Strategic choice	Airline focused	Dual strategy : Expansion & diversification in airline and airline-support business	Return to airline focus with divestments of foreign airlines
Organisational design	Swissair is core of the Swissair group	Holding structure, different activities in different SBUs which are separate legal entities	Merging the support SBU into the airline again (SAir Relations, SAir Services and SAir Logistics)
Change in top team		New CFO, new CEO of Swissair and other important positions, most of them were external appointments	New CFO (external appointment) further change in top management team
Change in responsibility structure		Change in responsibilities of top managers in such a way that choices needed for financial misrepresentation could be executed	Change in responsibilities again
Change in reward structure		Adaptation of remuneration system in line with choices to be made	Adaptation of remuneration system again

copy of his prior strategy when he was leading the SAC. However, this time a combination of accounting and real choices was needed to present his strategy as a successful one. This CEO had planned an initial public offering (IPO) on a number of airline-support strategic business units (SBUs) for 2001. The financial resources generated by these future IPOs were needed to finance the dual strategy. These IPO decisions however entailed incentives towards financial misrepresentation at segmental reporting level. The accounting choices in combination with the not arm's length transfer pricing for the activities outsourced to the 2nd pillar of the SAirgroup, made these airline-support SBUs also look more profitable.

When the CEO of the SAirgroup wanted to pursue the policy of re-routing the passengers through the Zurich hub, he centralised all operational decisions with regard to the airlines Sabena and Swissair (see 5.1.2.1.b) into his own hands. This centralisation changed drastically the task responsibilities of the CEOs of the individual airlines. When the American CEO of Swissair resigned in mid-2000, his complaint was that he never received the authority and responsibility to run the airline as he wished:

'Find the best person in the world to replace me. But give him the necessary authority so that he can run the airline as he wants. Do not under-

estimate the importance of this point. The fact that I was not able to stay in the company was due to the fact that this leadership question was not taken care of.'

(Translated from Luchinger, page 260, extract from the resignation letter of J. Katz).

The CEO of the SAirgroup appointed in 2001 again changed the strategy of the group. The focus came back to the airline industry. However, the new CEO and his team now opted to divest from the EU airlines which they blamed for the financial turmoil the SAir Group was facing (see citation in Section 4.2). Both CEOs not only changed the strategy of the SAir Group shortly after they took the leading position in the company, they also both changed the organisational structure of the company and the composition of the top management group. In particular, they removed internal management with long tenure from important functions and replaced them with external managers. To avoid resistance to those choices which were necessary to attain the target accounting numbers, centralisation decisions were taken together with changes to the reward structure.

If we combine the pattern detected in the first phase of the case analysis with the results of the second phase of the case analysis, we are able to shed light on the unexplained items left after the first phase (see Section 5.1.4).

6. A multi-theory perspective on financial misrepresentation

The combination of case findings from the first phase of the case analysis with the case data from the second phase results in a multi-theory perspective on the process of financial misrepresentation. This multi-theory perspective provides additional insights on the incentives which trigger financial misrepresentation, the choices employed to arrive at the target accounting numbers and the variables managed to obtain the necessary discretion to do so.

6.1. *The role of incentives embedded in contracts governing the firm in the process of financial misrepresentation*

Incentives are traditionally regarded in theory-based quantitative research as exogenous variables to the process of financial misrepresentation. In the literature, there is a theoretically proposed relationship between the incentives embedded in the contracts and the presence and the magnitude of financial misrepresentation (see Figure 1). However, in the first phase of the case study we observed that the remuneration contracts were rewritten twice over the period of study. It appears that the contracts were rewritten in such a way to allow the necessary accounting and real choices to be implemented in order to attain the target accounting numbers. The necessary choices seem to be explanatory variables and the incentives embedded in the contracts the explained variables. Combining these observations with the results of the second phase of the case analysis, we find that these contracts are rewritten each time a new CEO enters the company and embarks on a new strategy. Accounting numbers have to represent the successful implementation of the CEO's strategy from the second year that the CEO is in office. The contracts and the choices interact in order to arrive at the target accounting numbers, which are aligned with the strategic choice of the CEO. Consequently there is simultaneity between the remuneration contracts and the choices needed to attain the target accounting numbers.

We can extend the observation on the remuneration contracts to other contracts of the firm.

Internal explicit contracts (such as remuneration contracts) are easier to renegotiate than external contracts. Whether or not an external contract can be renegotiated depends on the power relationship between the firm and the external party. With regard to debt covenants it is possible that for small firms, the covenants are imposed to them. Larger firms may be able to negotiate the contracts with debt holders. Concerning regulation, large companies

can be more influential than small companies with regard to shaping regulation or codes issued by regulatory authorities. As such, regulation might be endogenous for large firms in the industry, whereas the same regulation could have an exogenous character for the smaller firms in the same industry. The external contracts with shareholders cannot usually be renegotiated.

These results of the multi-theory perspective on the case data provide evidence that the direction of the causation assumed in the agency framework is often reversed. The incentive embedded in a negotiable contract of the firm becomes dependent on the target accounting numbers to be reported and the accompanying accounting and real choices to be made in order to arrive at the target accounting numbers. The case results allow us to conclude that incentives in negotiated contracts are endogenous in the process of financial misrepresentation.

6.2. *Multiple choices employed in financial misrepresentation*

The multi-theory perspective provides explanations with regard to a number of accounting choices discovered in the first phase of the case analysis and which could not be adequately explained by the accounting literature perspective. The analysis of the managerial background and career path of the CEO provided us with a deeper understanding of the origin of the CEO's strategic choices and the interplay with accounting and real choices that were necessary to present his strategy as successful. If we relate the accounting and real choices to the respective CEO tenures, the difference in the presentation and classification of the write-downs of the airline investments can now be explained (see Tables 3, 4 and 6 in combination with Table 7). The write-downs in 1998 and 1999 related to the CEO's own investment decisions, whereas the investment in Sabena was the responsibility of the predecessor CEO. An explicit presentation of this write-down of Sabena could not harm the position of the current CEO. This write-down of 1996, which could be blamed on the predecessor CEO, was income enhancing for the future, especially in combination with the real choices to come. One could wonder whether the CEO of the SAirgroup had this in mind when writing in the Annual Report of 1996:

'The measures that we have introduced form the basis for a stronger and healthier SAirgroup. We believe that we have the foundation in place that will enable us to achieve substantially better results in the coming years, providing an appropriate return on invested capital and allowing our

staff to take advantage of the profit-related bonus scheme that we have created.'

(Annual Report 1996, page 6)

The provision for future losses and future commitments recorded in the annual accounts of 2000 could also be blamed on a predecessor CEO and therefore a visible presentation was no problem. This accruals decision of the CEO coming on board of the SAirgroup in 2001 before the authorisation for issue of the annual accounts of 2000, would also enhance the future income of the SAirgroup through its reversal effect later.

'The realignment of our Group's overall business thrust requires corrective action in balance-sheet terms, with the charging of extensive depreciation and provisions to the 2000 results. This will enable the Swissair Group to focus on its new corporate objectives free of the financial burdens of the past.'

(Annual Report 2000, page 5)

We observe that choices are influenced by the incentive to communicate the CEO's strategic choice as successful, while hiding away the current CEO's negative actions and emphasising the negative actions of predecessor CEOs.

6.3. Discretion to manage accounting numbers

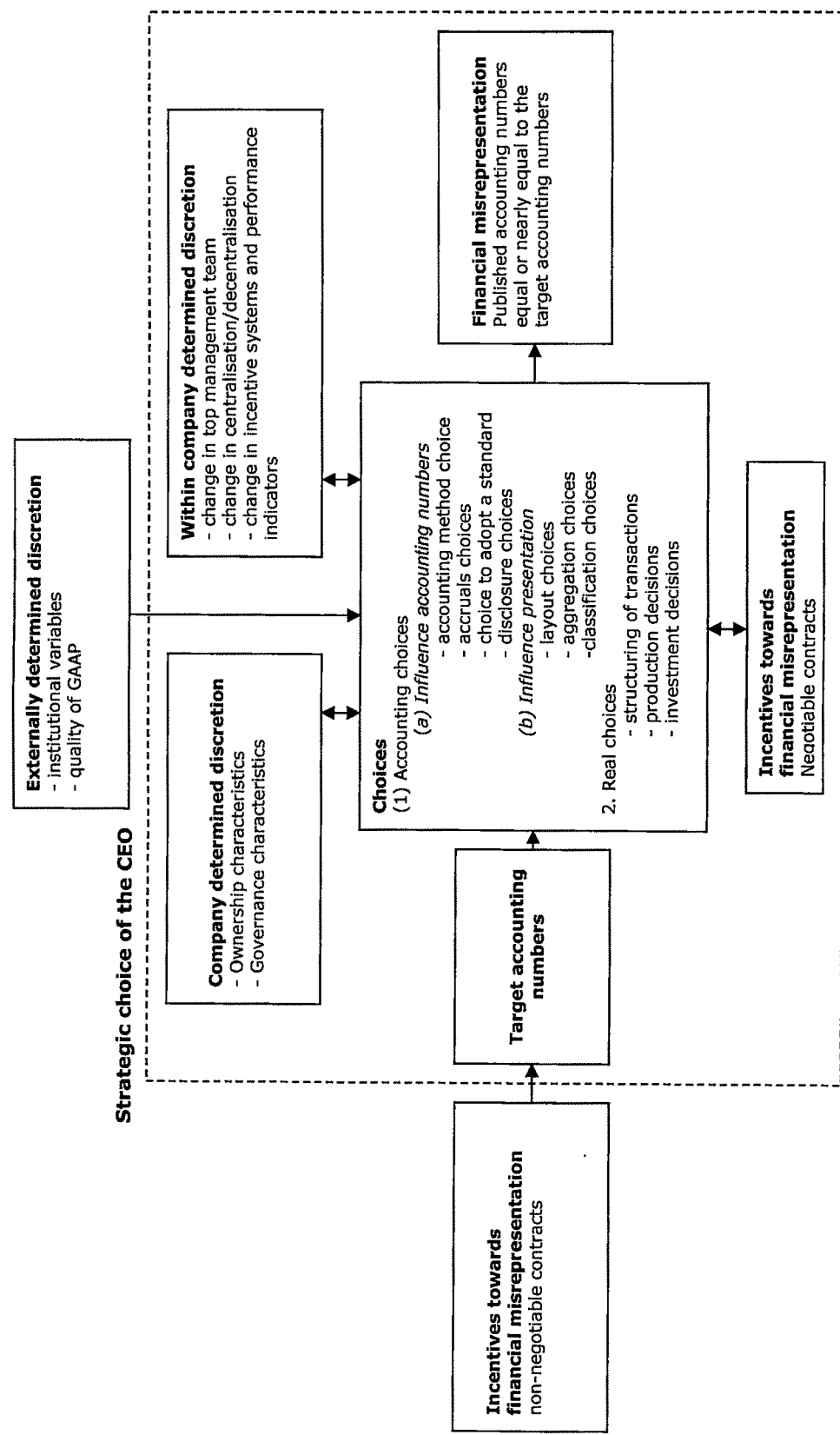
The multi-theory perspective also allows us to uncover additional mechanisms which provide discretion to the CEO and the top management team to engage in financial misrepresentation. The analysis of the case data in the first phase could not explain how it was possible to structure transactions and applying a transfer pricing policy, not determined on an arm's length basis, which had an impact on the results of the individual SBUs. According to the accounting literature, opportunities for discretion arise from external environmental sources (such as the quality of GAAP and the institutional characteristics) and company characteristics (such as governance and ownership). However, in order to transfer benefits between the different entities of a group, other mechanisms than those discovered by the extant literature were needed.

The insights derived from the second phase of the case analysis indicate that the CEO used first of all his power to change the top team composition. A change in the executive team enlarges the information asymmetry between the CEO and his new top team members (because of external recruitment). However, merely changing the top team composition was not sufficient to obtain discretion. The

need for accounting discretion over a business unit also shaped the degree of centralisation, the division of task responsibilities between top team executives and the choice of the performance indicator in the bonus plan of the executive of the business unit (see creation of AMP). The incentive schemes for the individual top team members were constructed in such a way that the CEOs of the SBUs would not oppose the earnings management policy of the corporate CEO. In case of a detrimental impact of a choice necessary to pursue the overall strategy (reporting strategy inclusive) on their business unit results, the CEOs of the SBUs were shielded to a certain degree (which could vary) from this negative impact (e.g. a part of the bonus plan of the top executives of Sabena was tied to the net result of the SAirgroup and the top executives of Sabena took also part in the share option plan of the SAirgroup, in common with the SAir executives). When the accounting choices were beneficial for the units, the top team members benefited from both the real decisions and from the 'pure' accounting decisions through their bonus plan. This adaptation of the bonus and incentive plan in line with the financial reporting strategy, implies a renegotiation of internal contracts with the SBU managers. This multi-theory lens provides evidence that within-firm relations (namely the organisational design, the centralisation/decentralisation decisions, top team composition, task responsibility and performance indicators for evaluation and reward purposes) need to be managed as well in order to obtain managerial discretion to pursue financial misrepresentation.

Traditional earnings management research usually regards the available discretion as an exogenous opportunity to engage in financial misrepresentation. The case data however reveal that a number of opportunities for discretion are created simultaneously with the renegotiation of contracts and the decision on the accounting and real choices needed to attain the target accounting numbers. The variables used to create within-firm discretion have an endogenous character and are determined in line with the strategic choice of the CEO. The opportunities for discretion created by ownership characteristics (concentrated vs non-concentrated and listed vs non-listed) and governance characteristics can have an endogenous character when the CEO is able to influence these characteristics (e.g. change of the ownership structure of a number of EU airlines after the investment of the SAirgroup – see Section 5.1.3). Discretion stemming from the external environment such as the institutional variables (investor protection, risk of litigation) and the quality of GAAP are

Figure 2
Financial misrepresentation through a multi-theory perspective



exogenous to financial misrepresentation. However, with regard to the quality of GAAP it is possible to distinguish circumstances where the GAAP used is an endogenous variable. One such circumstance is when GAAP can be applied on a voluntary basis instead of a mandatory basis. Another circumstance is when companies are able to influence the standard-setter through lobbying when standards which affect their financial situation are on the agenda. The GAAP applied will then have an endogenous character in the process of financial misrepresentation. The second circumstance applies to large companies. So we notice that whether or not a variable is endogenous in the process of financial misrepresentation is also influenced by the size of the company.

These additional insights on the role of incentives, choices and discretion in financial misrepresentation allow us to adapt Figure 1 (financial misrepresentation through an accounting perspective) in line with the case results obtained through the multi-theory perspective. The findings obtained through this multi-theory perspective are presented graphically and concisely in Figure 2.

Within the boundaries of the strategic choice of the CEO a number of variables, traditionally regarded as exogenous to the presence or absence of financial misrepresentation, might have an endogenous character. This finding applies to incentives embedded in negotiable contracts and a number of opportunities for discretion. According to the case data only incentives embedded in non-negotiable contracts and discretion influenced by the institutional environment have an exogenous character in the process of earnings management.

6.4. Consequences of this financial misrepresentation

A renegotiation of contracts together with the creation and use of existing opportunities for discretion, made it possible for the CEO to embark on a process which led to a misrepresentation of the economic situation of the SAirgroup. We notice that in this process extensive use was made of unobservable choices. Choices whereby the user of the accounts can adjust for their influence do not necessarily mislead the reader of the financial statements (e.g. an accruals decision disclosed in a transparent way, a gain on sale of assets which is properly disclosed, off-balance-sheet leasing when lease payments are disclosed in the notes). When companies do not fully consolidate their investments no information is provided in the notes which would allow users of those accounts to adjust for these decisions and to evaluate their impact on

published figures (see also AAA, 2003). This case study indicates how legal contract structuring was used to mask the control in substance of a subsidiary for group accounts purposes. The incorrect answer to the question of control led to a mis-stated financial position being reported on the consolidated balance sheet (see Appendix C). The foundations for the disconnection between the published accounting numbers on firm performance and the underlying economic performance of the entity were laid in the early years of the investment in Sabena. The disconnection between the published accounting numbers and the underlying economic performance was marginal at the start, but the gap enlarged between 1997 and 1998, and widened drastically in 1999 once the Hunter strategy had been fully implemented. If SAir top management had consolidated the foreign airlines many external parties would have taken different decisions on the basis of annual accounts in which these investments would have been fully consolidated. Now shareholders, debt holders and other stakeholders of the SAirgroup have taken suboptimal economic decisions with regard to their relationship with the SAirgroup in 1999 and 2000 because published accounting numbers did not represent the underlying economic reality. The actual debt structure was much riskier than the published debt structure and the published earnings figures were managed upwards.

7. Conclusion

In contrast to existing research we studied the management of accounting numbers from an integrated (multiple incentives and multiple methods) and dynamic perspective using a multi-theory perspective. With this research design we responded to several calls in the literature (see Schipper, 1989; Dechow and Skinner, 2000; Fields, Lys and Vincent, 2001). Through access to internal company data we were able to observe the incentives which triggered the decision to engage in financial misrepresentation together with the underlying choices and mechanisms which support or facilitate this decision from an internal company perspective. This case study approach allows us to provide insights in the process of financial misrepresentation additional to the extant accounting literature. In the first phase of the case analysis we looked through an accounting perspective to the process of financial misrepresentation. In the second phase of the case analysis we added insights from management theory in order to provide a richer explanation for the data observed. The combination of the case results of these two phases

allow us first to understand the nature of the relationships between the variables involved in the process of financial misrepresentation and second to gain insight in variables, previously uncovered by traditional earnings management literature, which are used to obtain discretion. The insights of both theoretical perspectives are complimentary for understanding the process of financial misrepresentation.

Traditional earnings management research regards all contracts and available discretion as exogenous variables in the process of financial misrepresentation in order to explain the presence or absence of earnings management and its magnitude. The multi-theory perspective however shows that accounting numbers are used and abused to achieve managerial objectives and to act according to the incentives embedded in non-negotiable contracts within the constraints of the environmentally determined discretion. According to the case results, only the incentives embedded in the non-negotiable contracts and the environmentally determined discretion, such as institutional variables and the quality of GAAP are exogenous in the process of financial misrepresentation. We find that incentives embedded in negotiable contracts, governance characteristics and ownership characteristics, which have traditionally been regarded as exogenous in the process of financial misrepresentation, have an endogenous character. The case results show that these variables, which are supposed to affect financial misrepresentation, depend themselves on that outcome. Incentives in negotiated contracts and certain sources of discretion are determined simultaneously with the type and the magnitude of financial misrepresentation and the methods to arrive at that financial misrepresentation. Simultaneity is, alongside omitted variables, an important cause of endogeneity (Chenhall and Moers, 2007). This finding points to specification problems in large-scale empirical research as the causality assumed there is often reversed in practice and independent and dependent variables are incorrectly distinguished. An additional contribu-

tion of the multi-theory perspective is that it identifies the boundaries within which these variables interact. The case data reveal that these variables are simultaneously determined within the frame of the strategic choice of the CEO and the accompanying reporting strategy to present the strategic choice as successful.

Furthermore, this multi-theory perspective allows us to discover additional elements of discretion on top of the variables used in the extant literature. The data indicate that in order to implement the 'necessary' accounting and real choices to obtain the 'target' accounting numbers, the following variables can also be adapted: the composition of the dominant coalition, the organisational design, and the design of the management control system (degree of centralisation, the division of task responsibilities and the incentive and reward structures).

At a higher level the case findings allow us to conclude that financial misrepresentation or the management of the accounting numbers can involve decisions in all management areas (financial statements, narratives in the annual report, composition of the top team, decisions on organisational structure, division of responsibilities, the management control system, investment decisions and operating decisions). Eliminating the management of accounting numbers in these situations would require a complete re-orientation of the strategy, restructuring of activities, redesign of the organisation and changing the management control systems back to those required to meet real business needs in terms of the available market opportunities.

With this multi-theory analysis we have shown that current accounting research has overlooked perspectives important for the better understanding and explanation of the managerial incentives to engage in financial misrepresentation and the underlying processes triggered by this decision. Arm's length analysis of financial data alone is not able to reveal such mechanisms and a wider range of research methods must be deployed to uncover them.

Appendix A

Overview of documents and publications consulted

Minutes of meetings

- Minutes of the Board of Directors of the SAirgroup and agenda with accompanying documents: 1995–2001 (October)
- Minutes of the Management Committee (konzernleitung) of the SAirgroup and agenda with accompanying documents: 1995–2001 (October)
- Minutes of the Finance Committee of the SAirgroup and agenda with accompanying documents: 1995–2001 (August)
- Minutes of the Executive Committee of the Board of Directors of the SAirgroup (Ausschus der Verwaltungsrat): 1996–1999 (April) – Committee was abolished in April 1999 due to the reform of the Board of Directors
- Minutes of the Board of Directors of Sabena and agenda with accompanying documents: 1994–2001 (November)
- Minutes of the Management Committee of Sabena and agenda with accompanying: 1994–2001 (November)
- Minutes of the Workers' Council Meetings: 1994–2001 (November)
- Minutes of the Steering Committee SAir/Sabena: May 1995–March 1998
- Minutes of the Steering Committee Diamond – 1999 (No. 1–No. 9)
- Minutes of the AMP (Airline Management Partnership) – Management Committee Meeting (October 1999–October 2001)

Contracts

- Shareholders' and Master Agreement between the state of Belgium and Swissair Swiss Air Transport Company LTD – 4 May 1995
- Loan Agreement between Société Fédérale d'Investissement (Belgium) and Swissair – 24 July 1995
- Global Warrant Certificate and Terms of Warrants – 25 July 1995
- Cooperation Agreement between Sabena and Swissair, Swiss Air Transport Company – 24 July 1995
- Codeshare beyond Agreement between Swissair and Sabena, 1 June 1997
- Frame Agreement between Swissair Swiss Airtransport Ltd and Sabena NV concerning the cooperation in the area of cargo transportation – 16 December 1996
- Cooperation Agreement between Sabena NV and Swisscargo Ltd concerning the cooperation in the area of cargo transportation – 12 August 1997
- Fleet Cooperation Agreement, 18 December 1997 between Swissair, SAirgroup, SR Technics, Sabena, DAT and Sobelair (the latter two are subsidiaries of Sabena)
- Technical Assistance and Service Agreement (TASA) between Sabena and Gate Gourmet International Ltd (subsidiary of SAirgroup) on 5 February 1997 (relates to catering)
- Swissair/ Sabena Airline Management Partnership (legal establishment of the UK partnership) – Allan & Overy, London, 31 July 2000

Consulting reports

- Report prepared on a possible acquisition – Flair Report – (24 May 1994) – McKinsey
- Report on a multi-partnership strategy – (3 October 1997) – McKinsey
- Several reports on the Hunter Strategy – (30 October 1997, 1 December 1997, 14 January 1998, 3 February 1998)
- Several reports on project Diamond – (April 1999, June 1999, December 1999) – McKinsey
- Several reports on project Diamond, exclusively on the cost-benefit sharing model under project Diamond = AMP (July 1999–November 1999) – Roland Berger
- Several consultancy reports on AMP (December 1999–January 2000) – McKinsey
- AMP – Clean Slate Report – March 2000 – McKinsey
- Strategic options for Sabena Technics – 16 September 1997 – McKinsey
- Situation of SR/SN prepared for Sabena – 7 November 1997 – McKinsey

Appendix A

Overview of documents and publications consulted *(continued)*

Development and Evaluation of Strategic Options – catering – Sabena 26 August 1997 – ICARUS – consulting AG

Development and Evaluation of Strategic Options – cargo handling – 26 August 1997 – ICARUS – consulting AG

Strategic Options for Sabena Ground Handling – 16 September 1997 – Mc Kinsey

PWC–Valuation of the maintenance division – Sabena Technics – 1 January 1999

Report for the financing of Aircraft – Sabena – March 1999 – Crédit Lyonnais – Transportation Advisory Group

Selecting the best strategy to value the state participation in Sabena – report for the Board of Directors of Sabena – November 1999 – Boston Consulting Group

Project Nightfly: strategic perspective on shareholder negotiations – (December 1999–March 2000), – ING Bearings – report ordered by the Minister of Public Companies

Project Daylight – ING Bearings – May 2001

Blue Sky – several consulting reports prepared for Sabena – by the Boston Consulting Group (spring 2000–March 2001).

Warburg Dillon Read – comments on financial guidelines of the SAirgroup – 29 September 1999

CSFB – comments on financial guidelines of the SAirgroup – November 1999

Project Shield – October 2000 – McKinsey

Risk assessment and strategy – March 2001 – CSFB

Reports of auditors

Management letters of the auditor of Sabena (KPMG) (1995, 1996, 1997, 1998, 1999, 2000)

Sabena – Opinion on the proposed capital increase – 11 December 2000 – KPMG

Report of STG Coopers and Lybrand to the Finance Committee and to the Board of the SAirgroup (1995, 1996, 1997)

Management Report of PWC to the Finance Committee and to the Board of the SAirgroup (1998, 1999, 2000)

Financial Exposure Report of PWC to the Board of the SAirgroup – February 2001

Audited results for the half year to 30 June 2001 to the Board of the SAirgroup of KPMG

Prospectuses issued by the SAirgroup

SAirGroup – SAirGroup Finance (NL) B.V. – €400,000, 000 – 4.375% – Guaranteed Bonds due 2006 – Guaranteed by SAirgroup – 11 November 1999

SAirGroup – SAirGroup Finance (NL) B.V. – US \$350,000,000 Guaranteed Notes due 2004 – Guaranteed by SAirgroup – 11 November 1999

Prospekt SAirgroup 2000–2007 von CHF 300,000,000, 4 $\frac{1}{4}$ % Anleihe (loan) SAirgroup – 25 January 2000

SAirGroup – SAirGroup Finance (NL) B.V. – €400,000,000 – 6.625%. Guaranteed Bonds due 2010 – Guaranteed by SAirgroup – 5 October 2000

Other documents

Correspondence of the CEO, the Secretary General and the legal department of Sabena 1995–2001

The Annual Reports of Swissair/SAirgroup 1945–2000

The Annual Reports of Sabena 1990–2000

Financial Statement Swissair Group for the 6 months ended 30 June 2001

Sabena Development Plan 1998–2000

Sabena Development Plan 2000–2002

Remuneration contracts of CEO Sabena 1996–2000 and 2000–2001, CEO SAirgroup 1996–2000, CFO SAirgroup 1997–2000, CEO Swissair 1997–1999 (details of the remuneration contracts of the other SBU CEOs were found in the Ernst & Young Report – complete version)

Appendix A

Overview of documents and publications consulted (*continued*)

Bonus and stock option plan SAir-Executives – 1997–2000

Bonus and stock option plan Sabena – Executives – 1999–2000

Press maps of Sabena and SAirgroup – 1995–2001

Reports, documents, articles and books

Chambre des Représentants de Belgique. (2003) ENQUÊTE PARLEMENTAIRE visant à examiner les circonstances qui ont conduit à la mise en faillite de la Sabena, de déterminer les éventuelles responsabilités et de formuler des recommandations pour l'avenir. DOC 50 1514/003 and DOC 50 1514/004

Decraene, S., Denruyter P. and Sciot, G. (2002) *De crash van Sabena*. Leuven, Uitgeverij Van Halewyck

Lüchinger, R. (2001). *SWISSAIR l'histoire secrète de la débâcle*. Lausanne, Editions Bilan,

Moser, S. (2001). *Bruchlandung, wie die Swissair zugrunde gerichtet wurde* Zürich, Orell Füssli Verlag

Press Report of Ernst and Young 'Investigation in Sachen Swissair'

Ernst and Young Report – complete version 'Investigation in Sachen Swissair' report undertaken at the request of the administrator of the SAirgroup

Slits, V. (2004). 'Comment Swissair a pillé la Sabena.' *La Libre Belgique*, 17 November 2004, 1: 18–19.

T.M. and D. M. (2004). 'La théorie du complot, ou la tentation de réécrire l'histoire.' *Le Temps – Quotidien Suisse édité à Genève* 17 November 2004, No. 2034, 3.

Appendix B**Definition of 'control' in the International Accounting Standards in the 1990s**

In the 1990s the definition of 'control' of the International Accounting Standards was embedded in IAS 22 'Business Combinations' as well as in IAS 27, 'Consolidated and separated financial statements'. Both definitions were identical and defined the concept of control as follows: Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities (IAS 27, para. 4). In order to allow preparers of financial statements to judge whether or not control existed in a relationship between investor and investee the following principles were included in IAS 22 and IAS 27 (again these principles are identical). These principles are the following (IAS 27, para. 13).

Control is presumed to exist when the parent owns, directly or indirectly through subsidiaries, more than half of the voting power of an entity unless, in exceptional circumstances, it can be clearly demonstrated that such ownership does not constitute control. Control also exists when the parent owns half or less of the voting power of an entity when there is:

- (a) power over more than half of the voting rights by virtue of agreement with other investors;
- (b) power to govern the financial and operating policies of the entity under a statute or agreement;
- (c) power to appoint or remove the majority of the members of the board of directors or equivalent governing body and control of the entity is by that board or body; or
- (d) power to cast the majority of votes at meetings of the Board of Directors or equivalent governing body and control of the entity is by that board or body.

Appendix C

Illustration of the impact of the accounting choices of the SAirgroup²⁰

The following accounting methods will be applied to an example of two individual companies, A and B, whereby A holds an investment in B of 49%. The group accounts will be prepared under three different sets of accounting choices: set (1) full consolidation, set (2) equity method and set (3) equity method whereby the investment was written down in the prior year.

	<i>Individual accounts A</i>	<i>Individual accounts B</i>	<i>Group accounts – full consolidation</i>	<i>Group accounts – equity method</i>	<i>Group accounts – equity method with write-down</i>
Tangible assets	600	350	950	600	600
Investment	98			85.25***	
Current assets	504	175	679	504	504
Total assets	1,202	525	1,629	1,189.25	1,104
Capital	500	200	500	500	500
Reserves	200		200	200	102
Result of the year	50	(25)			
Group result			37.75*	37.75	50
Equity	750	175	737.75	737.75	652
Minority interests			89.25**		
Long-term debt	400	250	650	400	400
Trade creditors	52	100	152	52	52
Total liabilities + equity	1,202	525	1,629	1,189.75	1,104
Equity/(Equity + total debt)			45.27 %	62.00 %	59.00 %
Return on equity			5.39 %	5.39 %	8.30 %
Return on total assets			2.31 %	3.17 %	4.50 %

* group result = 50 – 12.25 (= share of the loss of B) = 37.75

** minority interests = 102 – 12.75 = 89.25

*** investment (equity method) 98 – 12.75 = 85.25

²⁰ Under full consolidation the investee's assets, liabilities, revenues, and expenses are combined with those of the investor company, and the minority interest's equity in net assets and net income are disclosed in the consolidated financial statements. The equity method suppresses the components and reports only the investor's proportionate share of an investee's net assets and net income on the investor's balance sheet and income statement, respectively. All things being equal, a company consolidating an equity investment will have more assets, liabilities, revenues and expenses. There is no difference however in the total stockholders' equity or net income between full consolidation and the equity method, unless the investor's share of losses exceeds the carrying amount of the investment under the equity method (see also IAS 28) or if the investor had a gain or loss on issuances of stock by an equity investee. The company that can use the equity method, and avoid consolidation is often able to improve its debt-to-equity ratios, as well as ratios for return on assets and sales (see also Hartgraves and Benston, 2002: 249–250).

Appendix D

Communication on the managerial intent of the write-down of Sabena in the books of the SAirgroup

Translation into English

‘When Swissair will write down the value of its investment in Sabena in its books, this event is solely an ‘accounting’ event; it does by no means imply that Swissair will divest from Sabena. The only objective of this operation is to shield the result of the SAirgroup from future losses of Sabena.’

(Extract from the letter of the Secretary General of Sabena with approval of the CEO of SABENA in order to respond to questions raised by members of the Belgian parliament – 19 March 1997)

‘From an accounting point of view, this write-down allows a company not to include any longer its share in the losses or profits in the investee. From a strategic point of view, this write-down does not imply a sale of the Sabena investment nor a withdrawal.’

(Extract from a letter of the Secretary General of Sabena with consent of the CEO of Sabena to the Cabinet of the Belgian Minister of Transport – 15 March 1997)

Original French text

‘S’il est possible que Swissair amortisse la valeur de sa participation en SABENA, il est acquis qu’une telle opération purement comptable n’entraînera en aucune manière le retrait de Swissair. Cette opération aurait pour seul objectif de ne plus faire intervenir les résultats de la SABENA dans la consolidation des résultats du groupe.’

(Extract from the letter of the Secretary General of Sabena with approval of the CEO of SABENA in order to response to questions raised by members of the Belgian Parliament – 19 March 1997)

‘Sur le plan comptable, l’amortissement d’une participation permet à une entreprise de ne plus devoir consolider cette participation, et donc de ne plus inclure dans ses résultats les profits ou les pertes de cette participation – Sur le plan stratégique, cet amortissement ne signifie pas une vente ou un retrait’

(Extract from a letter of the Secretary General of Sabena with consent of the CEO of Sabena to the Cabinet of the Minister of Transport – 15 March 1997.)

Appendix E

'Agreement of the 2nd of August 2001 between the Belgian State, the SAirgroup and Sabena Article 6.3

The parties and their respective subsidiaries mutually, irrevocably and definitively waive any and all rights or claims, actual or potential, which they may have against each other and each other's directors, officers, employees, agents and representatives for funding or other obligations or liabilities in relation to (i) any decision adopted or actions taken by the Board of Directors of Sabena prior to the date hereof regarding the renewal or expansion of Sabena's fleet; (ii) any transfer of assets or provision of services between Sabena or any of its subsidiaries and SAirgroup or any of its subsidiaries prior to the date hereof which purportedly was not effected on arm's length terms or otherwise not in the best interest of any said parties; (iii) any decisions adopted or actions taken prior to the date hereof which purportedly deprived Sabena or SAirgroup or any of their respective subsidiaries from a corporate opportunity; and (iv) any purported acts or conduct prior to the date hereof as de facto director ("administrateur de fait") of Sabena.'

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Determinants of sell-side financial analysts' use of non-financial information

Raf Orens and Nadine Lybaert*

Abstract— This paper aims to research the context within which sell-side financial analysts make decisions to use corporate non-financial information. Prior research has demonstrated that financial analysts take into account non-financial information in their analyses of firms, but knowledge is scarce about what determines their use of this information. Based on a survey conducted among Belgian financial analysts, we observe a significant negative association between the financial analysts' use of non-financial information and the earnings informativeness of a firm's financial statement information proxied by leverage and stock return volatility. We also find that a higher amount of non-financial information is used by less experienced financial analysts and by financial analysts covering a higher number of firms.

Keywords: financial analysts; market for information; non-financial information

1. Introduction

The quality, relevance and timeliness of corporate information are important issues in the efficient functioning of capital markets. A critical element in this respect is an efficient flow of information among capital market participants as firms, investors or financial analysts (Barker, 1998; Holland and Johanson, 2003). Traditionally, financial statement information has been useful in assessing firms. However, current trends, such as globalisation, the introduction of new technologies and new businesses, and the transition towards a knowledge economy, decrease the value relevance of financial statement information. Financial analysts and investors have been observed to rely on information beyond the financial statements (i.e. non-financial information) to judge firm value (Amir and Lev, 1996; Ittner and Larcker, 1998; Lev and Zarowin, 1999; Graham et al., 2002; Liang and Yao, 2005).

Our paper investigates the behaviour of financial analysts in their use of non-financial information. Financial analysts are primary users of corporate information (Schipper, 1991), and are representatives of the investment community for which the reporting of corporate information is primarily

intended (IASB, 2005). Prior research has shown that investors rely strongly on financial analysts' earnings forecasts, recommendations and reported information (Hirst et al., 1995; Ackert et al., 1996; Womack, 1996). We examine in detail the drivers of the financial analysts' use of non-financial information and propose that the usage of such information increases with a decrease in the information content of the firm's earnings, proxied by firm leverage and stock return volatility. This proposition is consistent with the two most important functions of financial analysts: releasing information to investors and monitoring firm management (Chen et al., 2002). The importance of both functions is increasing with a decrease in the earnings informativeness. We further propose that the financial analysts' use of non-financial information is associated with their experience and task complexity. Since the theoretical justification of the determinants that drive the financial analysts' decision to use non-financial information is scarce, subsequent research could use the insights of our study to develop testable hypotheses.

We focus our study on Belgian sell-side financial analysts covering Belgian listed firms. The Belgian financial reporting environment is similar to that of other continental European countries. A common characteristic is the lower quality of financial statement information due to lower levels of enforcement, earnings management practices, concentrated ownership structures and less developed equity markets (La Porta et al., 1997, 1998; Leuz et al., 2003). Belgian brokerage firms face market characteristics similar to those experienced in other small continental European countries (e.g. Austria) and Scandinavian countries (e.g. Denmark or

*Raf Orens is Assistant Professor in Accountancy at Lessius (K. U. Leuven), Belgium and Nadine Lybaert is Associate Professor in Accountancy at Hasselt University (KIZOK), Belgium.

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Correspondence should be addressed to: Raf Orens, Assistant Professor Accountancy, Lessius (K. U. Leuven), Department of Business Studies, Korte Nieuwstraat 33, 2000 Antwerpen, Belgium. E-mail: raf.orens@lessius.eu.

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Finland) (Bolliger, 2004). In particular, Belgian brokerage firms employ a similar number of financial analysts, and these financial analysts have comparable levels of experience and task complexity (Bolliger, 2004).

To observe financial analysts' use of non-financial information, we conduct a survey among these stakeholders. This approach allows us to collect primary data but it has the disadvantages that responses are received which may not correspond with actual practice, or that the respondents may not comprehend the questions, or that responses cannot be explored in more detail. To deal with these disadvantages, our questionnaire has been read and reviewed by four experts in the field to identify whether all questions were comprehensible. In addition, we have performed content analysis on the reports written by financial analysts as a robustness check on the questionnaire results.

Our results show that Belgian sell-side financial analysts often use non-financial information in assessing firms. Consistent with our propositions, we demonstrate that financial analysts following firms with higher stock return volatility and firms with higher leverage use more non-financial information. Financial analysts' experience and task complexity are also related to their use of non-financial information. Our empirical findings should be of interest to regulators (i.e. standard-setters or stock exchanges) as they have to evaluate whether current reporting requirements, which mainly have a financial focus, are sufficient to meet the information needs of capital market participants. Regulators face difficulties in setting non-financial information requirements as the importance of non-financial information depends on firm and industry characteristics (e.g. Skinner, 2008; Stark, 2008). A common framework including non-financial information would be irrelevant for all firms in assisting investors or financial analysts in assessing firms (Stark, 2008). Our results seem to be in line with these statements. We find that the emphasis placed on non-financial information by financial analysts depends on the nature of the firms covered. In other words, firm-specific factors drive the relevance of non-financial information for financial analysts.

The remainder of the paper is structured as follows. Section 2 reviews relevant prior literature and Section 3 develops our research propositions. The research design is explained in Section 4 and the research results are discussed in Section 5. Section 6 presents sensitivity tests. Section 7 summarises the paper and provides some questions for further research.

2. The relevance of non-financial information

The importance and relevance of non-financial information in decision-making has been the subject of prior studies. However, many provide only some examples of non-financial information metrics, (e.g. Said et al., 2003; Juntilla et al., 2005), rather than a clear definition of non-financial information. The definition of 'non-financial information' that we follow here is included in the special report to the Financial Accounting Standards Board (FASB) on business and financial reporting (Upton, 2001: 5), stating that 'non-financial disclosures and metrics include index scores, ratios, counts and other information not presented in the basic financial statements'. The basic financial statements are the balance sheet, the income statement, the notes, the cash flow statement and the stockholders' equity statement (IAS 1.8, IASB, 2005). Authors such as Robb et al. (2001), Amir et al. (2003) and Flöstrand (2006) also define non-financial information in this way. Amir and Lev (1996) define non-financial information as non-accounting information. According to Barker and Imam (2008), non-accounting information is all information drawn from outside the financial statements. This approach differs slightly from Upton's definition. For instance an earnings forecast, being a metric published outside financial statements, is considered as non-financial information according to Upton's definition but, following Barker and Imam, this is considered to be financial information because an earnings forecast is drawn from financial statements.

Several studies have emerged on the value relevance of corporate non-financial information, using archival data. The first approach described here is seen in the stream of literature that examines the usefulness of non-financial performance measurements to predict future earnings or firm market values. Amir and Lev (1996) demonstrate that share prices are associated with the non-financial indicators 'Population in a service area' and 'Market penetration'. Hirschey et al. (2001) find that non-financial information on patent quality affects stock prices. Banker et al. (2000) show that non-financial measures of customer satisfaction are related to future financial performance. Ittner and Larcker (1998) find the same association, but in their study customer satisfaction does not have an influence on market returns. Kallapur and Kwan (2004) show that recognised brand values affect firm values.

A second approach to determining the relevance of corporate non-financial information is to examine the impact of non-financial disclosure on the

quality of financial analysts' earnings estimates. Vanstraelen et al. (2003) find a positive association between financial analysts' earnings forecast accuracy and forward-looking disclosure. Barron et al. (1999) demonstrate that better quality information included in the Management Discussion and Analysis enhances the accuracy of the analysts' earnings forecasts. These findings support Opdyke's (2000) argument that a strong focus by financial analysts on financial data does not yield accurate earnings forecasts. Orens and Lybaert (2007) show that financial analysts using more forward-looking information, as well as information about innovation and research and development, make smaller errors in estimating future earnings. These results confirm the survey findings of Epstein and Palepu (1999) and Eccles et al. (2001) showing that financial statements are insufficient for meeting financial analysts' information needs.

A third approach determines the relevance of non-financial information by examining the extent to which financial analysts use such information. To discover this, content analysis is often applied to analysts' reports. Rogers and Grant (1997), Breton and Taffler (2001), García-Meca (2005), Flöstrand (2006), García-Meca and Martínez (2007) and Orens and Lybaert (2007) find that a substantial proportion of an analysts' report includes non-financial information. Flöstrand (2006) also shows that analysts' reports issued for firms in the pharmaceutical industry and the telecommunications industry contain more intellectual capital information compared with analysts' reports on energy firms. Conversely, Barker and Imam (2008) find that industry membership does not affect the relative use of accounting and non-accounting keywords to describe earnings quality. García-Meca and Martínez (2007) find that the amount of non-financial information in the analysts' reports increases with profitability and with growth opportunities. Applying protocol analysis, Bouwman et al. (1995) demonstrate that financial analysts collect non-financial information to gain a better insight into firm performance and to observe unusual facts. Dempsey et al. (1997) conduct a survey among financial analysts, finding that financial analysts often use non-financial performance measurements to assess firms.

Despite the increasing importance of non-financial information, such information is hard to mandate and to standardise due to the firm- and industry-specific nature of non-financial information, the disclosure costs (e.g. competitive costs) and the risk of receiving vague and uninformative

disclosure (Skinner, 2008; Stark, 2008). Voluntary non-financial disclosure is considered to be more effective in improving the efficient functioning of capital markets rather than mandating non-financial disclosure (Skinner, 2008). Increased information requirements are additionally detrimental for small listed firms as they lack the financial resources to provide this information (Bushee and Leuz, 2005; Ahmed and Schneible, 2007; Gomes et al., 2007). Based on a survey among financial analysts, corporate managers and investors, Eccles and Mavrinac (1995) find no support for regulatory requirement of non-financial information. Various initiatives have therefore recommended firms to disclose non-financial information voluntarily. For instance, the Jenkins Committee of the American Institute of Certified Public Accountants (AICPA, 1994) concluded that users are unable to assess firms based on traditional financial statement information. The AICPA (1994) developed a business reporting model which includes non-financial information that firms could report voluntarily. The FASB (2001) extended this reporting model by the inclusion of intangible-related information.

3. Research propositions

Despite the empirical findings discussed in the previous section, additional research is required to understand the context within which financial analysts make decisions to use corporate non-financial information in assessing a firm's current financial position, in estimating a firm's earnings or in recommending investment in a stock. In this section, we develop our research propositions which are based on judgments and prior empirical research rather than on theoretical foundations. These propositions are tentative and need to be elaborated in future research. We first develop propositions based on the characteristics of the firms that are included in the financial analyst's portfolio. We then construct research propositions about two demographic characteristics of financial analysts, namely their experience and the complexity of their portfolio.

3.1. Characteristics of firms

We assume that financial analysts use a higher amount of non-financial information when following firms whose current earnings are less informative. If they are less informative, current earnings are less related to future earnings, future cash flows or security prices (Martikainen, 1997; Hodgson and Stevenson-Clarke, 2000; Skinner, 2008). As current financial statement information is less indicative of future company results, financial analysts and

investors are expected to collect additional information in order to interpret current earnings and to estimate future firm performance and firm value (Das et al., 1998; Eccles et al., 2001; Amir et al., 2003). Non-financial information is thereby used to add meaning to accounting data and to assess the quality of current earnings (Barker and Imam, 2008). The increased use of non-financial information where there is a reduction in earnings informativeness is consistent with the two most important functions of financial analysts, namely releasing information to investors and monitoring corporate management (Chen et al., 2002).

The first role of financial analysts is to provide reliable information to investors (Jorge and Rees, 1998; Barker, 2000; Cheng et al., 2006). Analysts add value to investors by transforming a relatively large amount of publicly available information into useful and relevant information for investment decisions (Hong et al., 2000; Elgers et al., 2001). Hayes (1998) asserts that the efforts devoted by financial analysts to collecting information depend on the trading commissions that could be generated. Since investors are risk averse, a decrease in the information content of earnings increases the willingness of investors to rely on financial analysts to become informed about a firm, increasing the financial analysts' contribution to investors (Amir et al., 2003). Analysts have more incentives to collect information since the provision of more information supporting analysts' recommendations increases investors' willingness to trade (Hong et al., 2000). In addition, investors are often unfamiliar with the interpretation of non-financial information (Maines and McDaniel, 2000; Maines et al., 2002; Hoff and Wood, 2008) due to the non-comparability of this information across firms (Maines et al., 2002). Investors rely on financial analysts to become informed (Eccles and Crane, 1988; Amir et al., 1999; Hoff and Wood, 2008), increasing the incentives for financial analysts to collect non-financial information.

Firm monitoring is the second important function of financial analysts. By assessing firms, analysts are able to reduce agency problems between shareholders and corporate management (Jensen and Meckling, 1976; Chung and Jo, 1996; Doukas et al., 2000). Where earnings are less informative, agency problems between investors and corporate management increase (Chung et al., 2005; Jiraporn and Gleason, 2007; LaFond and Watts, 2008). The increased agency costs are mitigated by the monitoring role of financial analysts (Jensen and Meckling, 1976; Moyer et al., 1989). To perform their monitoring role, financial analysts have to rely

more on corporate non-financial information where there is decreasing earnings informativeness.

We conclude that financial analysts are assumed to use more non-financial information when the information content of a firm's earnings is lower.

In our study, earnings informativeness is proxied indirectly by identifying factors that have been shown to affect the information content of earnings.¹ Firth et al. (2007) show that earnings informativeness is associated with risk and growth opportunities, which may be proxied by the market-to-book ratio (García-Meca and Martínez, 2007). We do not include this variable in our analyses because the market-to-book ratio is considered as a proxy for the use of non-financial information by capital market participants (Hossain et al., 2005), which biases our research findings. Risk is an indication of uncertainty, allowing financial analysts to gain from the acquisition of information (García-Meca and Martínez, 2007). Proxies for risks that are often employed in the empirical literature in association with the information content of earnings are firm size, leverage and stock return volatility (Warfield et al., 1995; Lui et al., 2007). Size, in association with the use of non-financial information, can however bias our results. Although smaller firms are considered to be more risky, which may increase financial analysts' need to collect and use non-financial data, smaller firms seem to disclose a lower amount of non-financial information compared to larger firms (Lang and Lundholm, 1993; Vanstraelen et al., 2003). This implies easier access to non-financial information for financial analysts covering larger firms compared to smaller firms, facilitating the use of non-financial information for financial analysts following larger firms (García-Meca and Martínez, 2007). Hence, firm size may have a positive or a negative association with the use of non-financial information. Following the empirical literature, the accessibility to non-financial information is unrelated to a firm's leverage or a firm's stock return volatility (e.g. Depoers, 2000; Ettredge et al., 2002; Gul and Leung, 2004). Hence, we decide to use the latter measurements as proxies for the level of earnings informativeness.

Hodgson and Stevenson-Clarke (2000) find that

¹ Earnings informativeness can also be proxied in a direct way by relating current earnings to future earnings. In order to evaluate the information content of earnings for each firm, financial data of consecutive periods are necessary. Quarterly financial data in this context are best suited, but Belgian listed firms were not required to publish quarterly interim statements at the time of our study. Although half-yearly reports were required, these were not included in the database available to us. Hand collection would leave gaps in the data.

investors perceive earnings disclosed by firms with higher leverage to be less informative due to the increased likelihood of firm failure and earnings management. In a similar way, Watts and Zimmerman (1990) assert that the level of earnings management correlates with firm leverage. Duke and Hunt (1990) and Press and Weintrop (1990) show empirically that higher leveraged firms to a larger extent apply income-increasing accounting methods. Managers of these firms have to report earnings that are high enough to cover interest, amortisation, and dividends. Hence, the earnings informativeness decreases with an increase in firm leverage (Dhaliwal et al., 1991; Martikainen, 1997; Yeo et al., 2002; Petra, 2007). The informativeness of financial statement information also decreases with an increase in the variability of a firm's stock returns (Lipe, 1990; Warfield et al., 1995; Vafeas, 2000). Large stock price changes reflect larger changes in a firm's financial performance, increasing the uncertainty around future earnings. Since an inverse association exists between earnings informativeness on the one hand and firm leverage and stock return volatility on the other hand, we propose that financial analysts use a larger amount of non-financial information covering firms with higher leverage and higher stock return volatility, leading to the following research propositions:

RP 1: Financial analysts' use of non-financial information is positively associated with the mean leverage of the firms followed by the financial analysts.

RP 2: Financial analysts' use of non-financial information is positively associated with the mean volatility in stock returns of the firms followed by the financial analysts.

3.2. Demographic characteristics of analysts

Next, we develop two propositions related to financial analysts' experience and task complexity. Perkins and Rao (1990) and Hunton and McEwen (1997) observe that experts, in comparison to novices, have more cognitive structures allowing them to structure problems effectively. Less experienced decision-makers follow an opportunistic approach by collecting and examining all available information in a chronological manner. The more experienced financial analysts conduct a more sophisticated information search (Yates, 1990). They spend less time, and are more directed, in searching for information since they collect only information from a predetermined list of information items (Bouwman et al., 1987; Anderson, 1988; Hunton and McEwen, 1997; Frederickson and

Miller, 2004). These findings allow us to propose that less experienced financial analysts use a higher amount of non-financial information. Hence, we state that:

RP 3: Financial analysts' use of non-financial information is negatively associated with the experience of the financial analysts.

Financial analysts' use of corporate information also depends on task complexity (Plumlee, 2003). In our study, we proxy task complexity as the number of firms financial analysts follow. An increase in the number of firms reduces the time left to devote to each individual firm (Clement, 1999; Jacob et al., 1999; Brown, 2001), decreasing the complexity of the decision-makers' evaluation techniques and restricting the decision-makers' need to collect and use information (Paquette and Kida, 1988; Payn et al., 1992; Libby et al., 2002). As the efforts to collect information reduce with task complexity, we assume that financial analysts use a lower amount of non-financial information when they cover a higher number of firms.

On the other hand, an interview with a financial analyst informs us that financial analysts covering a smaller number of firms normally perform other tasks besides evaluating listed firms, such as taking sales orders or making direct client contacts, which reduce the time left to analyse the firms in their portfolio in detail. As a consequence, the use of non-financial information is restricted. Since the direction of the association between the use of non-financial information and task complexity is unclear, we posit the following research proposition:

RP 4: Financial analysts' use of non-financial information is associated with the number of firms they follow.

4. Research design

4.1. Measurement of the use of non-financial information by financial analysts

In this study we make use of survey data as a proxy for the financial analysts' use of non-financial information. Surveys have the advantage that primary data can be collected about the behaviour of financial analysts with regard to non-financial information. The survey method is helpful to provide insight into the black box created by archival studies which are inappropriate for observing the actual use of non-financial information by financial analysts. The survey has the disadvantages that responses are received which may not correspond with actual practice, that the respondents may

not comprehend the questions or that responses cannot be delved into in more detail. To deal with these disadvantages, our questionnaire has been proofread by two financial analysts and two academics to identify whether all questions were comprehensible. In addition, we have performed content analysis to the reports written by financial analysts as a robustness check for the questionnaire results. We detail the design of the content analysis approach in Section 5.2.

The non-financial information indicators included in the questionnaire are based on the recommendations contained in the reports AICPA (1994) and FASB (2001). Studies such as Rogers and Grant (1997), Robb et al. (2001) and Vanstraelen et al. (2003) also use these recommendations to construct their disclosure index. Using an existing disclosure index increases the validity of our research findings.

In 1994 the AICPA proposed a reporting model which included relevant corporate information, financial as well as non-financial, that users require in making investment decisions. This reporting model consists of a limited number of recommendations classified into five information categories: business data, management's analysis of financial and non-financial data, forward-looking information, information about management and shareholders and background information about the firm. All categories include non-financial measurements, but the category 'business data' also contains financial indicators. In 1998, the FASB studied the AICPA recommendations in order to enhance firms' corporate reporting practices. FASB (2001) extended the AICPA disclosure index by adding a sixth information category which consisted of non-financial information about firms' intangible assets. Unlike AICPA (1994), FASB (2001) did not provide an exhaustive list of information items that firms might disclose.

The disclosure index applied in our questionnaire includes 71 non-financial information items which are selected from both discussed papers, and which firms may disclose voluntarily.² The items are grouped into five non-financial information categories:

- Management's analysis of financial and non-financial data (ANA): 11 items;

- Forward-looking information (FWL): 11 items;
- Information about management and shareholders (MAN): 6 items;
- Background information about the firm (BI): 23 items;
- Intellectual capital information (IC): 20 items.

The items from the categories ANA, FWL, MAN and BI are all non-financial information indicators included in the corresponding information categories discussed in AICPA (1994). The items mentioned in the category IC are derived from the non-financial information items included in the category 'business data' from AICPA (1994) together with indicators from the sixth information category of FASB (2001) regarding firms' intangible assets. Table 1 presents all non-financial information items included in the disclosure index of our study.

In our survey, each financial analyst was asked to indicate on a five-point Likert scale³ the extent to which each item is used in the analysis of all firms followed. This methodology biases the results to some extent since the use of corporate non-financial information by financial analysts may differ between the firms they analyse. Ideally, we should have asked each financial analyst to indicate the use of corporate non-financial information for each firm separately, but probably respondents would have been deterred by the length of the survey and would have been reluctant to provide so much detailed information about each firm. Similar to Dempsey et al. (1997), we asked financial analysts to indicate their average use of information. The sample size of our study consists of 31 responses, which is a response rate of 63% out of the population of 49 sell-side financial analysts employed by Belgian brokerage houses in 2005.

4.2. Regression model

The following multivariate regression model associates analysts' use of non-financial information to the independent variables:

$$USE_{ij} = \beta_0 + \beta_1 LEV_i + \beta_2 SDR_i + \beta_3 EXP_i + \beta_4 NCOM_i + \varepsilon$$

² In Belgium, firms are required to disclose relevant non-financial performance measurements (about, e.g. environmental performance or human resources information), research and development, shareholder structure, corporate governance and risks.

³ The scores in the questionnaire were arranged as follows: 1 = always used; 2 = often used; 3 = sometimes used; 4 = rarely used and 5 = never used. In order to facilitate the interpretation of our results – so that a higher score suggests a higher use of non-financial information – we have recoded our results as follows: 0 = never used; 1 = rarely used; 2 = sometimes used; 3 = often used and 4 = always used.

With:		LEV_i	= average ratio of long- and short-term debt to total assets of the firms followed by financial analyst i
USE_{ij}	= average use of non-financial information by financial analyst i from the information category j, with j representing the average use of all 71 non-financial information items (TOT) and the average use of the five components of non-financial information, i.e. the categories ANA, FWL, MAN, BI and IC.	SDR_i	= average standard deviation in daily stock returns of the firms followed by financial analyst i
		EXP_i	= number of years that financial analyst i performs his/her profession
		$NCOM_i$	= number of firms followed by financial analyst i
		ε	= error term

Table 1
Overview of the 71 non-financial information items included in the disclosure index

Category ANA: Management's analysis of financial and non-financial data

Reasons for changes in the financial, operating and performance-related data
Reasons identified by the management for changes in the volume of units sold or in revenues
Reasons identified by the management for changes in innovation
Reasons identified by the management for changes in profitability
Reasons identified by the management for changes in the long-term financial position
Reasons identified by the management for changes in the short-term liquidity and financial flexibility
Unusual or nonrecurring events and the effect of them on the firm

The identity and past effect of key trends
Social trends and the past effect of them on the firm
Demographic trends and the past effect of them on the firm
Political trends and the past effect of them on the firm
Macro-economic trends and the past effect of them on the firm
Regulatory trends and the past effect of them on the firm

Category FWL: Forward-looking information

Future risks for the firm
Future opportunities for the firm
Effects of the risks and opportunities on the business's future earnings and future cash flows
Activities and plans to meet the broad objectives and business strategy
Conditions that must occur within the business that management believes must be present to meet the broad objectives and business strategy
Conditions that must occur in the external environment that management believes must be present to meet the broad objectives and business strategy
Comparison of actual business performance to previously disclosed opportunities, risks and plans of the firm
New products launched in the next years
Expectations about the future growth of the firm
Evolution of future macro-economic indicators (e.g. economic climate, exchange rates) and the effect on the firm
Future production capacity of the firm

Category MAN: Information about management and shareholders

Directors and executive management
Major shareholder(s) of the firm's stock
Number of shares owned by the directors, managers or employees
Director and executive management compensation
Transactions and relationships among stakeholders and the firm
Disagreement with directors, auditors, bankers not associated with the firm

Table 1
Overview of the 71 non-financial information items included in the disclosure index (continued)

Category BI: Background information about the firm

Broad objectives and strategy

Broad objectives of the firm

Broad strategies of the firm

Consistency or inconsistency of the strategy with key trends affecting the business

Scope and description of business and properties

Industry in which the business participates

General development of the business

Principal products and services

Principal markets and market segments

Processes used to make and render principal products and services

Seasonality and cyclicity of the firm

Existing laws that have an influence on the business

Macroeconomic activity

Major contractual relationships with customers and suppliers

Location and productive capacity of the firm's principal plants

Impact of industry structure on the firm

Major suppliers of a firm

Availability or scarcity of supply of products or services

Relative bargaining power of suppliers

Dominant customers of the firm

Extent that the business is dispersed among its customers

Relative bargaining power of customers

Major competitors of a firm

Intensity of the competition

Competitive position

Ability of new firms to enter the business

Category IC: Intellectual capital information

Human capital

Compensation of employees

Education and training programmes of employees

Level of expertise of the employees

Staff policy

Job rotation

Employee satisfaction

Quality of the management

Internal structure

Productivity of a firm

Innovation (e.g. new products, new production processes)

Important patents, trademarks or licenses

Research and development programmes

Quality of the products or services

Organisation structure

Technological know how

Time required to perform activities such as production, delivery of products, development of new products

External structure

Evolution in the market share

Main brands of the firm

Customer satisfaction or customer loyalty

Realised acquisitions

Distribution and delivery methods

We use two data sources to measure our independent variables. The Bel-First database⁴ provides us with firm-specific data of 2005, and the survey contains the necessary demographic data. Since the dependent variable is measured as the average use of non-financial information of all firms included in a financial analyst's portfolio, we, in a similar way, compute LEV and SDR as the average leverage or the average stock return variability of the firms covered by each financial analyst. This approach biases our research findings to some extent, but it is also applied in other research areas.⁵

5. Research findings

5.1 Descriptive statistics

Table 2 presents the descriptive statistics for the use of non-financial information which ranges from 0 (never used) to 4 (always used) – and for the independent variables.

Panel A of Table 2 shows that financial analysts, with a mean score of 2.46, rely on non-financial information with a frequency 'sometimes to often'. However, the high standard deviation suggests a wide variation in this usage. The mean scores on analysts' use of non-financial information range from 1.06 (rarely used) to 3.77 (nearly always used) suggesting significant differences in the importance attached to the various information categories, which is supported by an ANOVA test. Our research data demonstrate that financial analysts often use background information about the firm (BI) and forward-looking information (FWL). Information about management and shareholders (MAN) and intellectual capital information (IC) is used to a lower extent. This result is surprising since intellectual capital information is useful to assess firm value (e.g. Barth and Clinch, 1998; Kallapur and Kwan, 2004), but it confirms prior findings from Johanson (2003) demonstrating that financial analysts have their reservations about the validity and the reliability of the reported IC information, and about the impact of this information on future cash flows. The use of IC disclosure is also

restricted by the reluctance of firms to report this information publicly, increasing collection costs for financial analysts (Dempsey et al., 1997). Our result that the sample financial analysts only use information about the management and shareholders occasionally is remarkable, given the fact that such information is largely disclosed by Belgian firms (Orens and Lybaert, 2007), increasing the accessibility of this information.

Panel B of Table 2 shows descriptive statistics for the independent variables. The respondents of our survey have, on average, 7.5 years experience in analysing listed firms and follow, on average, eight firms. The firm-specific determinants show a wide variation in the portfolio of firms followed by each financial analyst.

5.2 Multivariate regression results

We apply ordinary least squares (OLS) to test our propositions about the influences of the firm-specific and demographic determinants on the analysts' use of non-financial information. This approach can be criticised because the dependent variable, the average use of non-financial information, is censored between 0 and 4 through the use of ordinal data. However, alternative methods, such as asymptotic methods, seem to be no option as these create unreliable estimates with small sample sizes (Noreen, 1988). Similar to Dempsey et al. (1997) who have comparable data, we apply an OLS regression. We control for heteroscedasticity by the estimation of White's robust standard errors. The low levels of variance inflation factors (VIF) indicate that multicollinearity is not present in our data. The research results of the multivariate analyses are provided in Table 3.

The research findings in Table 3 reveal that financial analysts following higher leveraged firms, and firms with greater stock return volatility, employ significantly more non-financial information. This finding suggests that the level of earnings informativeness affects analysts' use of non-financial information. Hence, we are able to support RP1 and RP2. This finding is consistent across all non-financial information categories.

With regard to the demographic determinants, we conclude that less experienced financial analysts, and financial analysts covering more firms, use more non-financial information. These findings confirm RP3 and RP4. Breaking down non-financial information into various components, we observe that the use of three non-financial information categories, i.e. forward-looking information (USE_{i,FWL}), information about management and shareholders (USE_{i,MAN}) and background informa-

⁴ This database contains accounting data of all firms operating in Belgium that have filed their annual financial statement with the Central Balance Sheet Office of the National Bank of Belgium.

⁵ Many studies in the international accounting literature use mean scores on firm-specific variables in order to make comparisons across countries. La Porta et al. (1997), for instance, measure the median of the total debt to sales ratio for all the firms in a given country. Chang et al. (2000) relate the average size of the firms or the average ownership structure of the firms in a country to the average number of financial analysts following the firms in a country. Leuz et al. (2003) compute the average earnings management score of the firms operating in a country.

Table 2
Descriptive statistics for the dependent and independent variables

	Mean	Minimum	Maximum	Standard deviation
Panel A: Dependent variables¹				
USE _{i,TOT}	2.46	1.06	3.77	0.56
USE _{i,ANA}	2.39	1.27	3.64	0.61
USE _{i,FWL}	2.99	1.55	4.00	0.66
USE _{i,MAN}	1.91	0.17	4.00	0.90
USE _{i,BI}	2.88	0.60	4.00	0.88
USE _{i,IC}	1.91	0.65	3.45	0.52
Panel B: Independent variables				
<i>Characteristics of firms</i>				
LEV _i	0.468	0.146	0.663	0.133
SDR _i	0.089	0.033	0.138	0.027
<i>Demographic characteristics of financial analysts</i>				
EXP _i	7.45	1	26	4.88
NCOM _i	8.23	2	15	3.73

This table provides descriptive statistics for the dependent variables USE_{i,j}: average use of non-financial information by financial analyst *i* from the information category *j*, with *j* representing the average use of all 71 non-financial information items (TOT) and the average use of the five components of non-financial information, i.e. the categories ANA (management's analysis of financial and non-financial data), FWL (forward-looking information), MAN (information about management and shareholders), BI (background information about the firm) and IC (intellectual capital information) and for the independent variables LEV_i: average ratio of long- and short-term debt to total assets of the firms followed by financial analyst *i*; SDR_i: average standard deviation in daily stock returns of the firms followed by financial analyst *i*; EXP_i: number of years that financial analyst *i* performs his/her profession; NCOM_i: number of firms followed by financial analyst *i*.

¹ The scores on the measurements of non-financial information use range from 0 (never used) to 4 (always used).

tion about the company (USE_{i,BI}), show a negative association with financial analysts' experience and a positive association with financial analysts' task complexity.

6. Sensitivity analysis

Surveys are often criticised due to low response rates, the impossibility of delving deeper into responses, the possibility that respondents discuss their answers with others, and the possibility that responses do not reflect actual behaviour (Saunders et al., 1997). To control for the reliability of the survey results, we inspect the content of analysts' reports written by the respondents in our study. This approach overcomes the problem of subjectivity in surveys, but it has the drawback that no conclusions can be drawn as to whether financial analysts include all information they use in their reports. Limited space and competitive reasons restrict the amount of information mentioned in an analysts' report (Schipper, 1991; Rogers and Grant, 1997).

In particular, we study whether the frequency

with which items are mentioned in the analysts' reports corresponds with the frequency of use according to the survey results. We have selected the analysts' reports that were written during a period of one year prior to the survey. In general, two types of analysts' reports exist: company reports and result reports (Garcia-Meca and Martinez, 2007). We have examined company reports only because, in these reports, financial analysts present a fundamental analysis of the firm. Such reports include a large amount of corporate information, providing a detailed picture of a firm's activities and performance. Financial analysts however do not publish such reports on a regular basis. Results reports are published frequently during the year and include information related to a particular event in a firm (e.g. an earnings announcement, the introduction of a new product or an acquisition). We have not researched these reports since they are restricted in providing non-financial information.

This selection procedure results in 40 analysts' reports written by 15 financial analysts that

Table 3
Multivariate regression results of the analysts' use of non-financial information on firm and demographic characteristics

<i>USE_{ij}</i>		<i>Intercept</i>	<i>LEV_i</i>	<i>SDR_i</i>	<i>EXP_i</i>	<i>NCOM_i</i>	<i>Adjusted R²</i>	<i>F-value</i>
USE _{i,TOT}	Coefficient	0.502	0.023	11.661	-0.947	0.066	35.9	5.205**
	T-value	1.005	3.302**	3.130**	-2.640**	2.472**		
USE _{i,ANA}	Coefficient	0.697	0.021	9.580	-0.623	0.039	16.6	2.493*
	T-value	1.148	2.505*	2.117*	-1.430	1.222		
USE _{i,FWL}	Coefficient	1.382	0.022	11.422	-1.317	0.074	26.4	3.685*
	T-value	2.227*	2.521**	2.468**	-2.958**	2.236*		
USE _{i,MAN}	Coefficient	-0.809	0.026	13.202	-1.063	0.137	24.6	3.442*
	T-value	-0.943	2.182*	2.064*	-1.728*	2.991**		
USE _{i,BI}	Coefficient	0.526	0.026	12.689	-1.049	0.085	35.9	5.197**
	T-value	0.919	3.274**	2.969**	-2.552**	2.788**		
USE _{i,IC}	Coefficient	0.552	0.017	9.242	-0.672	0.029	14.3	2.255*
	T-value	0.983	2.208**	2.209**	-1.668	0.956		

** significant on a 1% level; * significant on a 5% level (one-tailed), based on White (1980) corrected standard errors.

This table provides the multivariate regression results of the following model:

$$USE_{ij} = \beta_0 + \beta_1 LEV_i + \beta_2 SDR_i + \beta_3 EXP_i + \beta_4 NCOM_i + \varepsilon$$

with USE_{ij} : average use of non-financial information by financial analyst i from the information category j , with j representing the average use of all 71 non-financial information items (TOT) and the average use of the five components of non-financial information, i.e. the categories ANA (management's analysis of financial and non-financial data), FWL (forward-looking information), MAN (information about management and shareholders), BI (background information about the firm) and IC (intellectual capital information); and with the independent variables LEV_i : average ratio of long- and short-term debt to total assets of the firms followed by financial analyst i ; SDR_i : average standard deviation in daily stock returns of the firms followed by financial analyst i ; EXP_i : number of years that financial analyst i performs his/her profession; $NCOM_i$: number of firms followed by financial analyst i ; ε : error term.

The scores on the measurements of non-financial information use range from 0 (never used) to 4 (always used).

responded to our survey. We were unable to collect analysts' reports for all 31 respondents as we did not gain access to the reports written by all these financial analysts. The selected reports were issued for 26 Belgian listed firms. Each report is researched for the presence of the corresponding items included in the survey. We allocated a score of 1 when a particular non-financial information item is mentioned in an analysts' report and a score of 0 otherwise. We observe that financial analysts mainly disseminate forward-looking information and background information, but hardly mention intellectual capital information and information about the management and the shareholders in their reports. These findings support the survey results. In addition, we obtain a significant positive correlation between the mean score on each of the 71 non-financial information items based on the survey results and the frequency that each item occurred in the analysts' reports (untabulated results). Non-financial information elements being

used more frequently according to the survey, are more frequently inserted in the analysts' reports. These findings allow us to conclude that the results of our regression equation do not suffer from biases in the measurement of the dependent variable.

We also control for additional determinants that may affect the use of non-financial information by financial analysts. First, we examine whether the education level of financial analysts is related to the use of non-financial information. Belgian financial analysts have the opportunity to receive a specific training organised by the Chartered Financial Analysts Institute (CFA) or the Belgian Association of Financial Analysts (BAFA). Financial analysts are encouraged to take part in these training programmes on a voluntary basis. These courses enhance the knowledge and skills to perform analyses of firms (Huber et al., 1993; Lee et al., 2005). We propose that financial analysts who took part in these courses rely more on non-financial information to interpret financial statement infor-

mation. Our research findings (not tabulated) show that financial analysts who have attended such training programmes use more non-financial information.

The size of the brokerage firm is the second control variable which we associate with the use of non-financial information. Demirakos et al. (2004) show that brokerage houses differ in their preferences for using valuation models, such as discounted cash flows or accounting-based economic profitability models. Clement (1999) and Jacob et al. (1999) emphasise that larger brokerage houses employ more financial analysts and supporting staff, resulting in larger and better networks for collecting, disseminating and interpreting corporate information. Additionally, larger brokerage firms demonstrate a larger influence on capital markets than smaller brokerage houses. As a result, managers are more eager to provide voluntary information to analysts employed by larger brokerage houses. Both arguments suggest that analysts from larger brokerage firms have better access to non-financial information, which in turn may increase the usage of this information (Dempsey et al., 1997). Our research findings (not tabulated) show that financial analysts employed at larger brokerage houses do not employ significantly more non-financial information than financial analysts employed at smaller brokerage houses. We attribute this result to the low variation in the number of financial analysts operating in Belgian brokerage houses.

Finally, we research whether the average firm size and the proportion of firms with negative earnings in the financial analysts' portfolio affect the financial analysts' use of non-financial information. Prior literature shows that the information content of earnings is lower for small firms and loss-making firms (Hayn, 1995; Vafeas, 2000; Petra, 2007), suggesting an increased need for financial analysts to use non-financial information. However, our findings (not tabulated) are unsupportive for concluding that firm size and negative earnings influence the analysts' use of non-financial information.

7. Conclusion

The current study provides insight into the drivers of financial analysts' use of corporate non-financial information. Prior studies have found that financial analysts consider the importance of non-financial information in estimating value creation by firms, but these studies do not focus on the context within which financial analysts make the decision to use corporate non-financial information.

Based on tentative propositions, our empirical results show that financial analysts' use of non-financial information is negatively associated with the firm's earnings informativeness, proxied by the risk indicators leverage and stock return volatility. Financial analysts following firms with higher leverage and higher stock return volatility use more non-financial information than financial analysts covering firms with lower leverage or lower stock return volatility in order to counter concerns over higher risks and to capture underlying economic events. These findings are consistent with the two most important functions of financial analysts: providing information to investors and monitoring firm management. As earnings are less informative, the importance of both functions increases. In order to add meaning to the financial figures, financial analysts use non-financial information to perform both functions. Our empirical results also indicate that the less experienced financial analysts, and the financial analysts following a higher number of firms, make more efforts to use corporate non-financial information.

One important limitation of our study relates to the small sample size, which restricts the generalisation of our findings to other small continental European countries. Additional research in both code law and common law countries is necessary to increase our knowledge regarding the determinants affecting the financial analysts' use of non-financial information. Another limitation relates to the application of mean scores in the association between the use of non-financial information and firm-specific determinants. In a future study, the analysts' use of non-financial information for each individual firm separately could be examined instead of averaging the use of non-financial information across all firms covered by a financial analyst.

Because theoretical evidence about determinants of the use of non-financial information is scarce, further research is necessary to elaborate this research area. Our research propositions in this respect could be used to develop hypotheses about the drivers of analysts' use of non-financial information. Further research could also focus on the information sources on which financial analysts rely in collecting non-financial information. It is important to gain more insight into the extent to which financial analysts collect non-financial information privately. Such research maps the potential information asymmetry between investors and financial analysts. Future research can also focus on the impact of financial analysts' use of corporate non-financial information on financial analysts' esti-

mates of a firm's future cash flows and a firm's market value.

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The association between privatisation and voluntary disclosure: evidence from Jordan

Mahmoud Al-Akra, Ian A. Eddie and Muhammad Jahangir Ali*

Abstract— This paper investigates the impact of privatisation on the extent of corporate voluntary disclosure in Jordan. We conduct a longitudinal examination using 243 annual reports of 27 privatised firms in Jordan over a period of nine years from 1996 to 2004. Employing univariate and pooled regression models our results show that privatisation is positively associated with voluntary disclosure. Specifically, we find that accounting regulation reforms and foreign investments accompanying privatisation have a significant impact on the levels of accounting disclosure in Jordan. Our study provides evidence on the role of privatisation in improving the disclosure culture as an important pre-condition for the development of active capital markets.

Keywords: voluntary disclosure; privatisation; Jordan

1. Introduction

In the face of globalisation, and in response to pressures of international bodies, many countries have adopted various economic reforms to revitalise their investment environments. Privatisation is one of the measures utilised to develop the role of capital markets in allocating resources. Consequently, in the past two decades the policy of privatisation has been employed by more than 100 countries in an attempt to promote efficiency, economic growth and development (Enthoven, 1998).

Privatisation is defined as ‘the deliberate sale by a government of state-owned enterprises (SOEs) or assets to private economic agents’ (Megginson and Netter, 2001: 321). The primary purpose of privatisation is to improve the efficiency of SOEs. Several theoretical arguments advanced to explain the inefficiency of SOEs draw on propositions relating to the governance problems of these firms. The weak governance of SOEs stems from the inability of managers of SOEs to commit to specific objectives for the firm, government interference in the firm’s operations, lack of high-powered incentives and lack of proper monitoring of SOE

managers. By contrast, private ownership is claimed to be more efficient and reflective of better governance (Megginson and Netter, 2001). Hence, the sale of SOEs to private owners is expected to enhance the governance of these firms, including better disclosure practices.

Further, privatisation aims at mobilising domestic savings, attracting external finance and consequently promoting the use of markets to allocate resources. Given the importance of the role that securities markets plays in privatisation, being the main avenue through which governments relinquish their shareholdings, privatising governments significantly restructure their securities markets by establishing a regulatory body similar to the US Securities and Exchange Commission including revising and updating their securities market regulation. Securities laws matter a great deal to stock market development (La Porta et al., 2006) and ultimately to the improvement of corporate disclosure (Adhikari and Tondkar, 1992).

Privatisation transfers ownership to new private owners, hence, the legal protection of these new owners becomes of crucial importance to the success of the privatisation process. To that end, privatising governments revise and update their corporate governance structures, including changes to their legal systems, and establish listing and other regulations that strengthen shareholders’ protection and provide for adequate prevention of insider dealings (Megginson and Netter, 2001). Stronger investor protection is associated with higher financial disclosures (Jaggi and Low, 2000).

Moreover, the new owners resulting from privatisation might have different incentives and abilities to monitor managers, thus the level of monitoring is expected to lead to the production of different levels

*Mahmoud Al-Akra is at New England School of Business, University of New England, Australia; Ian A. Eddie is at Graduate College of Management, Southern Cross University, Australia and Muhammad Jahangir Ali is at the School of Accounting, La Trobe University, Australia.

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Correspondence should be addressed to: Muhammad Jahangir Ali, School of Accounting, La Trobe University, Bundoora, Vic 3086, Australia. Tel: 61 3 9479 5177. E-mail: m.ali@latrobe.edu.au.

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of information disclosure. In particular, foreign investors monitor management closely, and require strong disclosure standards (Boubakri et al., 2005) to ensure high quality and comparable information. This is due to the potential information asymmetry resulting from language and space barriers (Huafang and Jianguo, 2007).

Although the economic policy of privatisation has gained significant importance, prior research has failed to explore the impact of privatisation on privatised firms' disclosure practices despite the significant changes privatisation brings about in terms of ownership changes, corporate governance and regulatory reform. Accordingly, this study tests whether privatisation influences voluntary disclosure of Jordanian privatised firms. We also examine whether the ownership changes, corporate governance and regulatory reform influence voluntary disclosure levels of privatised firms. To our knowledge, this is the first study which examines the influence of privatisation on voluntary corporate disclosure. Further, Jordan (and the Middle Eastern region) has been relatively neglected by disclosure research despite the recent changes in the accounting regulatory environments in the wake of the recent move towards globalisation. Jordan is of interest not only because of its status as a developing country, but because its government executed a privatisation program. Hence, documenting and understanding the impact this program has had on disclosure by Jordanian firms takes on particular importance.

We employ a longitudinal examination of voluntary disclosure using 243 annual reports of 27 privatised Jordanian listed companies over a period of nine years from 1996 to 2004. Using univariate and pooled regression models we observe that the extent of voluntary disclosure has increased significantly through the time period of the study. Results of the panel data validate the significant influence of privatisation on voluntary disclosure. The results also suggest that foreign investors, audit committees and regulatory reforms are factors positively associated with voluntary disclosure. We demonstrate that the association of these factors with voluntary disclosure is more positive when accompanying privatisation. We also carry out an additional analysis to reduce the possibility that our results are driven by time effects. The additional test indicates that time does not play a significant role in influencing the level of voluntary disclosure of Jordanian firms, thereby providing greater confidence in our findings.

The remainder of the paper proceeds as follows. The next section offers background information regarding privatisation and disclosure practices in

Jordan. Section 3 develops hypotheses and Section 4 presents the research design and methodology for testing our hypotheses. The results of our study are analysed in Section 5 while additional analyses are discussed in Section 6. Section 7 concludes the paper.

2. Privatisation and disclosure practices in Jordan

The Jordanian government's involvement in the economy through state-owned enterprises was intended to achieve several objectives and focus on serving the national economy including building, developing and maintaining infrastructure, import substitution, and regional development. The government owned substantial shareholdings in a number of small- and medium-sized industrial and service sector companies, and various financial institutions. It also had partnerships with the private sector in major industries and services such as minerals (cement, phosphate and potash), electricity, communications, public transport and tourism (ASE, 2008).

Public sector institutions and corporations in Jordan were highly inefficient, provided sub-standard services and were highly in debt, while private sector firms were better performing, producing higher returns and generating better job opportunities. The government's participation in public shareholding companies comprised around 15% when the privatisation process commenced in 1997, and decreased to less than 6% after it sold its shares in most of these companies by 2004. Following privatisation, the government maintains a share in major infrastructure companies such as Arab Potash, Jordan Phosphate Mines and Jordan Petroleum Refinery (ASE, 2008).

The Jordanian privatisation program took several methods with appropriate modes for each situation according to the specificity and particularity of each transaction, and for the purpose of avoiding the risks associated with using only one method. The methods used were: capital sales, e.g. IPO and divestiture; sales to strategic investors; concession agreements; management contracts; and franchising (EPC, 2008). To pave the way for privatisation and ensure its success, Jordan revised its institutional framework including its corporate governance structures, corporate disclosure rules and legal systems through the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law.

The 1997 Company Law focused on the adoption of the full version of IAS/IFRS by all listed Jordanian firms in an attempt to improve transpar-

ency, comparability and reliability of Jordanian firms' corporate disclosure. Moreover, this law laid down the governance policy framework which focused on strengthening legal investor protection and emphasised the board of directors' responsibilities in ensuring compliance with mandatory requirements (ASE, 2008).

The 1997 Temporary Securities Law aimed at setting up three new institutions to replace the old Amman Financial Market (AFM), namely: Jordan Securities Commission (JSC), Amman Stock Exchange (ASE) and the Securities Depository Commission (SDC). These three institutions are responsible for setting and enforcing accounting regulations, protecting investors and ultimately promoting an investment culture in Jordan (JSC, 2008).

Finally, the 2002 Securities Law called for the adoption of the full version of the IFRSs. It also strengthened the powers of the above-mentioned institutions by giving them the authority to penalise non-complying firms. It spelled out the responsibilities of these institutions focusing on strengthening investor protection and developing stronger governance frameworks and stringent regulations to ensure compliance with the new requirements.

Prior to privatisation, disclosure practice in Jordan was dictated by the Companies Law No. 12 of 1964 (amended in 1989). This law was loosely stated and very limited in scope (Solas, 1994; Abu-Nassar and Rutherford, 1996; Rawashdeh, 2003). It required companies to prepare an annual report with a profit and loss statement, a balance sheet, explanatory notes and an auditor's report.¹ No further requirements were specified with regard to the form and content of the financial statements. The Commerce Code (Trade Law No. 12 of 1966) also required all companies to keep a general journal, inventory records and a correspondence register. Again no specification was provided as to the form and content of the accounts (Ott et al., 1997). Furthermore, the Amman Financial Market (currently known as Amman Stock Exchange) required listed Jordanian firms to prepare annual reports in accordance with generally accepted accounting principles (GAAP) without an interpretation of what constitutes GAAP (Naser, 1998).

3. Development of hypotheses

3.1. Privatisation and voluntary disclosure

The theoretical literature contends that improvements to firms' efficiency brought about by privatisation is due to the change of owners' identity from

state to private (Megginson and Netter, 2001). The precondition for the change is the typical inefficiency of state-owned firms. The main reason for this inefficiency is the weak governance in state-owned firms, reflecting agency conflicts. These conflicts are theoretically twofold. The first is public choice theory that postulates that government actors (politicians and bureaucrats) use state ownership to pursue their own objectives such as securing political office, accumulating power, or seeking rents (Alchian, 1965). Further, Shleifer and Vishny (1997) argue that political interference in the firm results in excessive employment, poor choices of product and location and lack of investment. The second argument suggests that corporate governance will be weaker in state-owned firms than in private firms because managers of state-owned firms may lack high-powered incentives or proper monitoring. This lack of incentives and monitoring is due to 'the weaker accountability for financial performance, easier access to financing, lack of exposure to a market for corporate control, and weaker monitoring by shareholders' (Mak and Li, 2001: 240).

One of the most important functions that corporate governance can play is ensuring the quality of the financial reporting process. It has been argued (Chiang, 2005) that companies with better corporate governance have higher standards of disclosure and transparency. Chiang (2005) concludes that companies with better governance signal this by better information disclosure to outsiders in order to develop a good image. Further, prior research has found an association between weaknesses in governance, and poor financial reporting quality, earnings manipulation, financial statement fraud, and weaker internal controls (e.g. Dechow et al., 1996; Beasley, 1996; McMullen, 1996; Beasley et al., 2000; Carcello and Neal, 2000; Klein, 2002). Hence, the weak governance of state-owned firms might be viewed as a source of poor corporate disclosure.

A number of empirical studies have tested the impact of state ownership on disclosure practice (Naser, 1998; Naser and Al-Khatib, 2000; Naser et al., 2002; Eng and Mak, 2003; Cheng and Courtenay, 2006); however, these studies report mixed findings.² A plausible explanation can be that

¹ The audit report must state that the company has complied with Company Law No. 1 of 1989.

² Eng and Mak (2003) and Cheng and Courtenay (2006) report significant positive influence of state ownership on voluntary disclosure. Naser (1998), Naser and Al-Khatib (2000), and Naser et al. (2002) are Jordanian studies that empirically examine the influence of state ownership on financial disclosure of Jordanian companies. No associations are reported between the government ownership variable and the depth of disclosure by Jordanian firms in the first and third study, while the second study reports a positive influence of government ownership on voluntary disclosure.

extant studies do not examine the impact of state ownership within the context of privatisation. Given the significant changes that the transfer of ownership from the state to the private sector brings about, as these firms experience a fundamental shift in their governance we expect privatised firms to exhibit higher disclosure levels under private ownership. Therefore, we hypothesise:

H1: The level of voluntary disclosure for privatised firms is higher under private ownership than under state ownership.

Following other privatisation studies (see Bortolotti et al., 2002; Boubakri et al., 2005), we introduce a dummy variable to test for the effect of privatisation (PRIV) that takes the value of one starting from the date when the firm is privatised.

3.2. Ownership structure and voluntary disclosure

The transfer of ownership from the state to private owners resulting from privatisation leads to diffused ownership structure and results in increased agency costs (Boycko et al., 1996). One way of reducing these agency costs could be through the voluntary disclosure of more information about the firm so that owners can better monitor their interests in the firm, and managers can reduce the agency costs that they bear. Wallace and Naser (1995) argue that the greater the number of people who need to know about the affairs of a firm the more comprehensive the disclosure of the firm. Singhvi and Desai (1971), McKinnon and Dalimunthe (1993), and Bauwhede and Willekens (2008) provide empirical evidence supporting this argument.

Alternatively, diffused ownership may imply a lack of monitoring capacity due to the low ownership stake of individual owners reducing their influence on the company's disclosure practices. Wallace and Naser (1995), Hossain et al. (1994) and Barako et al. (2006) provide evidence in support of this view. Further, Naser and Al-Khatib (2000) and Naser et al. (2002) note that Jordanian individual investors are not sophisticated and their investment decisions are uninformed. They find a negative association between individual ownership and disclosure. Therefore, it is not clear whether Jordanian individual investors influence voluntary disclosure levels of privatised firms. As a result, our hypothesis is non-directional for this type of ownership.

H1a: The level of voluntary disclosure of privatised firms is not associated with the proportion of individual investors.

Another type of private ownership is institutional investors. Firms with large institutional ownership

tend to increase their levels of voluntary disclosure (El-Gazzar, 1998). However, the author explains that when ownership is concentrated in the hands of a few institutions, these institutions may act like insiders and have better access to private information, hence they may not press for public disclosure. In Jordan, institutions are either passive or related to a controlling family (ROSC, 2005) implying that their presence would likely be associated with lower voluntary disclosure. Empirical evidence reflects a significant association between institutional investors and voluntary disclosure (El-Gazzar, 1998), while Ajinkya et al. (2004) observe a negative association with concentrated institutional investors. Again, the evidence of the relation between Jordanian institutional investors and voluntary disclosure is not clear. Hence, our hypothesis is also non-directional for institutional investors.

H1b: The level of voluntary disclosure of privatised firms is not associated with the proportion of institutional investors.

One of the major aims of privatisation is the attraction of foreign investment. Shehadi (2002) contends that over 90% of foreign direct investment in developing countries has come from privatisation. The author suggests that privatisation facilitates the involvement of foreign investment in developing countries through three main channels. The first is directly, through the adoption of regulatory measures that would liberalise trade, open the capital market to competition and allow foreign investors to own shares in listed companies. The second is indirectly, through increasing the liquidity of the capital market, which provides investors with an exit strategy. The third is through a catalytic impact by gaining the confidence of foreign investors as governments show commitment to privatisation and liberalisation.

Brown et al. (2004: 12) posit that 'foreign owners have better access to finance, management skills, new technologies and knowledge of markets, which would suggest higher productivity effects'. Foreign investors are a source of better governance and higher performance (Boycko et al., 1996; Dyck, 2001), place more emphasis on efficiency, require higher disclosure standards and monitor management more effectively (Boubakri et al., 2005).

Moreover, foreign investors likely face a higher level of information asymmetry because of language barriers and the geographical separation between management and owners (Haniffa and Cooke 2002; Huafang and Jianguo, 2007). Accordingly, foreign investors demand more information before investing in foreign firms leading to a

higher level of voluntary disclosure. This is especially pertinent for emerging markets where foreign investors may face greater uncertainty and unfamiliarity than local investors and thus demand greater disclosures from target companies.³

While empirical evidence investigating the impact of foreign investors on voluntary disclosure is limited, the results support the significant influence of foreign investors on the extent of voluntary disclosure (see Haniffa and Cooke, 2002; Lakhal, 2005). Further, Naser et al. (2002) contend that foreign investors have more experience in regional and international markets and hence they are more likely to demand higher disclosure standards. Following the above arguments, it can be hypothesised that:

H1c: The level of voluntary disclosure of privatised firms is positively associated with the proportion of foreign ownership.

In Jordan, Arab investors constitute a significant percentage of investors in the Amman Stock Exchange (ROSC, 2005). Anecdotal evidence points to the fact that Arab investors have little experience of dealing with stock exchanges (Naser and Al-Khatib, 2000). Naser et al. (2002) is the only empirical study that examines the influence of Arab investors on the depth of information disclosure of Jordanian listed firms, but they find no significant influence of Arab investors on corporate disclosure in Jordan. Hence, we exclude Arab ownership from our study.

3.3. Regulatory reforms and voluntary disclosure

Given the importance of the role that the securities market plays in privatisation, being the main avenue through which governments relinquish their shareholdings, privatising governments significantly restructure their securities markets by establishing a regulatory body similar to the US Securities and Exchange Commission including revamping their securities market regulation. Securities laws matter a great deal to stock market development (La Porta et al., 2006) and ultimately to the improvement of corporate disclosure (Adhikari and Tondkar, 1992).

Moreover, privatisation causes major changes in ownership from the state to private owners, significantly altering the ownership structure of firms. Hence, the legal protection of the new owners becomes of crucial importance to the success of the privatisation process. To that end, governments undertaking privatisation programmes revise and

update their corporate governance structures, including changes to their legal systems, and establish the listing and other regulations that strengthen shareholders' protection and provide for adequate prevention of insider dealings (Megginson and Netter, 2001). Stronger investor protection is associated with higher financial disclosures (Jaggi and Low, 2000).

Jordan introduced a set of accounting regulatory reforms aimed at modernising existing laws and creating a more favourable investment environment through the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law (see Section 3.1). These laws called for the mandatory adoption of IAS/IFRS and developed the Jordanian corporate governance policy framework and substantially enhanced legal investor protection. It can therefore be expected that these regulatory reforms will enhance corporate disclosure. We develop two variables: LAW 1 and LAW 2. LAW 1 is a dichotomous variable that takes the value of one starting from the date when the 1997 Company Law and the 1997 Temporary Securities Law are enacted, and zero otherwise.⁴ The second variable is LAW 2 which is a dichotomous variable that takes the value of one starting from the date when the 2002 Securities Law is enacted, and zero otherwise. The following hypotheses are formulated:

H2a: The level of voluntary disclosure for privatised firms is positively associated with the introduction of LAW 1.

H2b: The level of voluntary disclosure for privatised firms is positively associated with the introduction of LAW 2.

3.4. Corporate governance reform and voluntary disclosure

As argued above, the Jordanian governance policy framework dealt with issues of the board of directors mandating the appointment of at least three non-executive directors on the board and mandating of audit committees to be comprised of at least three non-executive directors. Therefore, we investigate the influence of these two recently mandated governance mechanisms on voluntary disclosure.

The board of directors is the central internal mechanism for monitoring management (Mak and Li, 2001). Fama and Jensen (1983) posit that non-executive directors act as a reliable mechanism to reduce agency conflicts between managers and

³ We are grateful to an anonymous reviewer for this suggestion.

⁴ Note that the impact of the first two laws cannot be separated since both were enacted in the same year.

owners through encouraging management to disclose more information. It is further suggested that the presence of outside directors may limit management opportunism (Eng and Mak, 2003). Besides their monitoring role, non-executive directors are perceived as respected advisors; thus, they have an influence on the quality of firms' disclosures (Haniffa and Cooke, 2002).

Empirical evidence regarding the influence of non-executive directors on management disclosure is mixed. Chen and Jaggi (2000), Susilowati et al. (2005) and Cheng and Courtenay (2006) all report significant positive association between the proportion of independent directors and voluntary disclosure. On the other hand, Forker (1992) and Ho and Wong (2001) document an insignificant relationship between the ratio of outside directors and voluntary disclosure. However, Eng and Mak (2003), Gul and Leung (2004) and Barako et al. (2006) all outline significant negative associations between the ratio of non-executive directors and voluntary disclosure. Jordanian firms comply well with the requirements of the 1997 Company Law and the 2002 Securities Law (ROSC, 2005) appointing at least three non-executive directors. Hence we expect the presence of non-executive directors to positively influence voluntary disclosure levels.

H3a: The level of voluntary disclosure for privatised firms is positively associated with the proportion of non-executive directors.

Audit committees are viewed as monitoring mechanisms that oversee various aspects of governance in the firm including the internal control structure, internal and external audit functions and ensuring the quality of financial reporting (Bradbury, 1990; DeZoort, 1997). Audit committees play an intermediary role between the external auditor and management, and assist in maintaining the independence of external auditors so that high quality reporting is achieved in terms of compliance with disclosure standards (Susilowati et al., 2005). Previous research provides evidence of the positive impact of an audit committee on corporate disclosure. For instance, Forker (1992), McMullen (1996), Ho and Wong (2001) and Barako et al. (2006) all demonstrate a significant positive association between the presence of audit committees and the extent of voluntary disclosure. Therefore, we test the following hypothesis:

H3b: The level of voluntary disclosure for privatised firms is positively associated with the presence of audit committees.

3.4. *Company characteristics*

Previous empirical disclosure research advanced several arguments drawing on agency theory, signalling theory and capital market theory, hypothesising the impact of certain corporate attributes on voluntary disclosure (Chow and Wong-Boren, 1987; Cooke, 1989; Hossain et al., 1994; Inchausti, 1997; Chen and Jaggi, 2000; Owusu-Ansah and Yeoh, 2005). This study tests the influence of the following variables: sales, leverage, profitability, liquidity, auditor type, and industry type (see Table 2). The choice of these variables was based on their relevance to the socio-economic environment of Jordan, the ease of measurement and the availability of data relating to these variables.

4. *Research design and methodology*

4.1. *Data selection*

Privatised public non-financial companies listed on Amman Stock Exchange represent the population for this study. Annual reports over the period of nine years from 1996 to 2004 were used. Employing panel data techniques allows us to examine how ownership changes and governance reforms impact voluntary disclosure. Sample companies were chosen based on the availability of their annual reports and the requirement that they must be listed for the entire period of the study. To ensure that the maximum number of annual reports was obtained, a letter was sent to the Company Controller at the Ministry of Industry and Trade in Jordan (where all annual reports are filed) requesting the annual reports. In all, the final sample consists of 243 annual reports of 27 privatised firms. Table 1 shows sector representation of the sample companies (4 infrastructure, 16 manufacturing and 7 services companies).

4.2. *Dependent variable – voluntary disclosure indices (VDI)*

A disclosure index is developed to measure the extent of voluntary disclosure (the dependent variable) by Jordanian companies. To establish the disclosure index, a voluntary disclosure checklist is prepared based on information firms provide in their annual reports. To arrive at the items for the checklist an extensive review of previous voluntary disclosure studies, particularly developing countries' studies, was undertaken as a guide in selecting the most common items across those studies (Buckland et al., 2000; Hossain et al., 1994; Haniffa and Cooke, 2002; Eng and Mak, 2003;

Table 1
Distribution of sample according to industry

<i>Industry</i>	<i>Industry type</i>	<i>Number of companies (n = 27)</i>
Industry 1 Infrastructure	1. Electricity	1
	2. Cement	1
	3. Minerals	1
	4. Petroleum	1
Industry 2 Manufacturing	1. Cable and electrical product	1
	2. Chemical and pharmaceutical	3
	3. Engineering	1
	4. Food and allied products	4
	6. Metals and allied products	1
	8. Paper and printing	2
	9. Textile products	2
	10. Clay product and refractory	1
	11. Leather and tanneries	1
Industry 3 Services	1. Hotels and tourism	2
	2. Press	1
	3. Investment	1
	5. Transport	3

Barako et al., 2006). The items in the checklist must be non-mandatory. This means the information disclosed is over and above what is required by the 1997 Company Law and the 2002 Securities Law, the two sources for disclosure regulation in Jordan. However, due to the introduction of the Securities Law in 2002 mandating certain disclosure requirements that were voluntary prior to this date, two disclosure checklists were prepared. These lists were sent to three auditing professionals in Jordan to consult them on the relevance and extensiveness of the voluntary disclosure items. The final lists are comprised of 90 items applicable for the annual reports of 1996–2002 and 81 voluntary items applicable for the annual reports from 2003–2004. They contain background information, strategic information, information about directors, capital market data, product/services information, financial data, employees' information and segments and research information.

The study uses an unweighted scoring approach appropriate for a study that does not consider the information needs of any specific group (Ghazali and Weetman, 2006). We also do not penalise a firm for non-disclosure if the item is not relevant to the firm. Such a judgment can be made after reading the entire annual report (Cooke, 1992). Accordingly, the annual report for each company is awarded a score of 1 if a voluntary item is disclosed and 0 if it failed to disclose it, provided it is relevant. Therefore, the VDI for each company is measured

as the ratio of the actual score awarded to the maximum possible score, defined as follows

$$VDI_{jt} = \frac{\sum_{i=1}^{n_{jt}} x_{ijt}}{n_{jt}} \quad (1)$$

where:

VDI_{jt} = the voluntary disclosure index for the j th company in the year t , where t is 1996–2004;

n_{jt} = number of voluntary items that were relevant for the j th firm in the year t , n_{jt} either 90 (for the years 1996–2002) or 81 (for 2003–2004);

x_{ijt} = 1 if the i th (relevant) item is disclosed by the company j in the year t ;
0 if the i th (relevant) item is not disclosed;
Therefore, $0 \leq VDI_{jt} \leq 1$.

4.3. Independent variables

Information for the independent variables was sought from two main sources, the annual reports and the Annual Jordanian Shareholding Company Guide for the years (1997–2005)⁵ available at the web site of the Amman Stock Exchange (ASE).

⁵ The Annual Jordanian Shareholding Company Guide is published by Amman Stock Exchange annually. It contains information about companies' boards, shareholders, and financial information.

Table 2
Definition and measurement of independent variables

<i>Variable</i>	<i>Definition</i>	<i>Measurement</i>	<i>Data source</i>
PRIV	Privatisation	Dummy variable: 1 when firms are privatised onward; 0 otherwise;	EPC
STO	State ownership	Total percentage of ordinary shares held by the state;	Annual Jordanian Shareholding Company Guide 1997–2005
FOW	Foreign ownership	Total percentage of ordinary shares held by foreign investors (non-Arab);	Annual Jordanian Shareholding Company Guide 1997–2005
INDOW	Individual ownership	Total percentage of ordinary shares held by domestic individuals holding 10% or less of the shares;	Annual Jordanian Shareholding Company Guide 1997–2005
IOW	Institutional ownership	Total percentage of ordinary shares held by institutional investors;	Annual Jordanian Shareholding Company Guide 1997–2005
LAW 1	The 1997 Company Law and the 1997 Temporary Securities Law	Dummy variable: 1 starting from the date when the 1997 Company Law and the 1997 Temporary Securities Law are enacted, and zero otherwise;	—
LAW 2	The 2002 Securities Law	Dummy variable: 1 starting from the date when the 2002 Securities Law is enacted, and zero otherwise.	—
PNED	Percentage of non-executive directors	Number of outside directors to the total number of directors on the board;	Annual Jordanian Shareholding Company Guide 1997–2005
AC	Audit committee	Dummy variable: 1 if an audit committee is present, 0 otherwise;	Annual Jordanian Shareholding Company Guide 1997–2005
Sales	Company size	Net sales/revenues;	Annual Jordanian Shareholding Company Guide 1997–2005
LEV	Leverage	Ratio of total liabilities to shareholders' equity;	Annual Jordanian Shareholding Company Guide 1997–2005
LIQ	Liquidity ratio	Current ratio: ratio of current assets to current liabilities;	Annual Jordanian Shareholding Company Guide 1997–2005
PROF	Profitability	Return on equity;	Annual Jordanian Shareholding Company Guide 1997–2005
AUD	Size of auditor	Dummy variable: 1 if auditor is one of the Big auditing firms, 0 otherwise;	Annual Jordanian Shareholding Company Guide 1997–2005
Industry types	IND1	Infrastructure	Annual Jordanian Shareholding Company Guide 1997–2005
	IND2	Manufacturing	
	IND3	Services	
		1 if infrastructure, 0 otherwise;	
		0 default level;	
		1 if services, 0 otherwise.	

Table 2 summarises the definitions and measurement of the independent variables.

4.4. Model specification

To test our hypotheses, the following pooled model was estimated:

$$VDI_{jt} = \beta_0 + \beta_1 PRIV_j + \beta_2 STO_{jt} + \beta_3 FOW_{jt} + \beta_4 INDOW_{jt} + \beta_5 IOW_{jt} + \beta_6 LAW1 + \beta_7 LAW2 + \beta_8 PNED_{jt} + \beta_9 AC_{jt} + \beta_{10} Sales_{jt} + \beta_{11} LEV_{jt} + \beta_{12} LIQ_{jt} + \beta_{13} PROF_{jt} + \beta_{14} AUD_{jt} + \beta_{15} IND1_{jt} + \beta_{16} IND2_{jt} + \beta_{17} IND3_{jt} + \varepsilon_i \quad (2)$$

where:

VDI_{jt}	= Voluntary disclosure index;
$PRIV_j$	= Dummy variable; 1 when the firm is privatised onward; 0 before;
STO_{jt}	= Total percentage of ordinary shares held by the state of firm j in year t ;
FOW_{jt}	= Total percentage of ordinary shares held by foreign investors (non-Arab) of firm j in year t ;
$INDOW_{jt}$	= Total percentage of ordinary shares held by domestic individuals holding 10% or less of the shares of firm j in year t ;
IOW_{jt}	= Total percentage of ordinary shares held by institutional investors of firm j in year t ;
$LAW 1$	= Dummy variable: 1 starting from the date when the 1997 Company Law and the 1997 Temporary Securities Law are enacted onward, and zero otherwise;
$LAW 2$	= Dummy variable: 1 starting from the date when the 2002 Securities Law is enacted onward, and zero otherwise.
$PNED_{jt}$	= Number of outside directors to the total number of directors on the board s of the shares of firm j in year t ;
AC_{jt}	= Dummy variable: 1 if an audit committee is present in firm j in year t , 0 otherwise;
$Sales_{jt}$	= Net sales/revenues of firm j in year t ;

LEV_{jt}	= Ratio of total liabilities to shareholders' equity of firm j in year t ;
LIQ_{jt}	= Ratio of current assets to current liabilities of firm j in year t ;
$PROF_{jt}$	= Return on equity of firm j in year t ;
AUD_{jt}	= Dummy variable: 1 if one of the Big auditing firms are employed by firm j in year t , 0 otherwise;
$IND1_{jt}$	= 1 if firm j in year t is infrastructure, 0 otherwise;
$IND2_{jt}$	= 0 default level
$IND3_{jt}$	= 1 if firm j in year t is services, 0 otherwise;
$\beta_0, \beta_1, \beta_2 \dots \beta_{26}$	= The regression estimates, and
ε_i	= The stochastic disturbance term.

In addition to the pooled regression specified above, we carry out two additional analyses. In the first, we test whether privatisation enhances the positive influence of ownership changes, audit committees and regulatory reforms on voluntary disclosure levels. We examine this issue by including interaction terms of the variables in question with privatisation. Our second test aims at ascertaining whether the increase in the level of voluntary disclosure is due to privatisation and the accompanying regulatory reforms and not to time effects. To control for time effects, we perform two comparisons between firms that were privatised early with firms that were privatised later on, and between firms that were privatised later on with private firms (firms that were not subject to privatisation). Section 6 details the methodology and results of these analyses.

5. Results and discussion

5.1. Descriptive statistics and univariate tests

Table 3 presents descriptive statistics for all variables (Panel B) and compares data for 1996 with 2004 (Panel A).

The table indicates a notable decrease in state ownership, while foreign⁶ and institutional shareholdings have markedly increased. It also points to a decrease in individual ownership⁷ which is surprising given the aim of privatisation which is primarily to promote an equity culture in the privatising country. A possible explanation could be due to political instability as a result of war and unrest in

⁶ Arab ownership is not included in foreign ownership.

⁷ We exclude individuals who are block owners of 10% or more.

Table 3
Descriptive statistics for the privatised firms
Panel A: Comparison between 1996 and 2004

<i>Variable</i>	<i>Years</i>	<i>Mean</i>	<i>Median</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Std dev.</i>
STO (%)	1996	22.69	15.74	0.04	78.95	22.23
	2004	8.39	1.80	0.00	55.39	13.42
FOW (%)	1996	0.84	0.04	0.00	12.42	2.48
	2004	3.95	0.09	0.00	48.53	10.57
INDOW (%)	1996	39.98	40.64	0.19	88.81	23.49
	2004	29.62	22.44	0.14	66.20	20.87
IOW (%)	1996	20.88	17.36	0.00	42.58	13.63
	2004	27.66	24.75	0.54	69.59	20.43
PNED (%)	1996	0.28	0.30	0.00	0.46	0.14
	2004	0.28	0.22	0.00	0.78	0.21
Sales (JD)	1996	37,341,051	6,453,355	0	493,458,976	98,025,222
	2004	59,311,277	7,064,271	82,319	861,840,893	170,531,459
LEV (%)	1996	92.90	49.00	0.30	571.70	140.5
	2004	84.10	27.00	1.70	340.10	108.8
LIQ (%)	1996	5.26	1.97	0.40	88.15	16.63
	2004	4.03	2.26	0.74	25.75	5.01
PROF (%)	1996	3.67	8.69	-75.49	24.65	19.36
	2004	6.03	7.90	-38.41	31.93	15.52
Categorical variables		1 (%)	0 (%)			
AC	1996	0	100			
	2004	37%	63%			
AUD	1996	48.15%	51.85%			
	2004	81.48%	18.52%			

Panel B: All firms

<i>Variable</i>	<i>Mean</i>	<i>Median</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Std dev.</i>	<i>Skewness</i>
STO (%)	15.33	7.84	0.00	78.95	18.75	1.44
FOW (%)	2.52	0.04	0.00	52.46	8.61	4.79
INDOW (%)	33.69	37.21	0.14	88.81	21.49	0.14
IOW (%)	27.28	24.59	0.00	69.59	19.10	0.39
PNED (%)	0.26	0.25	0.00	0.78	0.16	0.37
Sales (JD)	47,451,121	6,918,592	0.00	851,647,495	122,864,093	4.69466
LEV (%)	81.40	39.80	0.30	571.7	117.8	2.62813
LIQ (%)	4.58	2.21	0.40	88.15	10.22	7.15537
PROF (%)	4.36	6.47	-75.49	31.93	15.36	-2.12099
Categorical variables		1 (%)	0 (%)			
PRIV		57%	43%			
LAW 1		89%	11%			
LAW 2		33%	67%			
AC		14%	86%			
AUD		70%	30 %			
IND1		14%	86%			
IND3		26%	74%			

neighbouring countries leading to the reluctance of many small individuals to trade in the capital market.

In 1996 the net sales/revenues of the sample companies increased from an average of 37.34m to 59.113m Jordanian Dinars. While leverage and

liquidity declined, profitability measured by return on equity showed a notable rise. The number of companies utilising the services of the Big auditing firms increased significantly from around 48% to 82% of the sample companies. Panel B shows that some variables are highly skewed, and hence they

Table 4**Panel A: Distribution of total voluntary disclosure scores: selected years: 1996, 2000 and 2004**

<i>Disclosure score (%)</i>	<i>1996</i>		<i>2000</i>		<i>2004</i>	
	<i>No. of companies</i>	<i>%</i>	<i>No. of companies</i>	<i>%</i>	<i>No. of companies</i>	<i>%</i>
≤ 0.1	7	25.9	5	18.5	1	3.7
0.11–0.2	14	51.9	11	40.8	12	44.4
0.21–0.3	3	11.1	6	22.2	7	25.9
0.31–0.4	0	0	1	3.7	3	11.1
0.41–0.5	3	11.1	1	3.7	0	0
0.51–0.6	0	0	3	11.1	2	7.5
> 0.6	0	0	0	0	2	7.5

Panel B: Distribution of privatisation across the time period: 1996–2004

<i>Years</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>
No. of companies	8	2	3	3	1	2	8
Accumulation	8	10	13	16	17	19	27

Panel C: Comparison of voluntary disclosure: 1996, 2000 and 2004

<i>VDI (N = 27)</i>	<i>1996</i>	<i>2000</i>	<i>2004</i>
Mean	0.168	0.220	0.264
Median	0.137	0.176	0.203
Minimum	0.028	0.083	0.085
Maximum	0.440	0.595	0.649

Panel D: Tests of equality of means of voluntary disclosure: 1996, 2000 and 2004

	<i>Paired t-test</i>	
	<i>t-statistic</i>	<i>P value*</i>
2000 versus 1996	2.80	0.009
2004 versus 2000	4.33	0.000
2004 versus 1996	4.81	0.000

*All probabilities are two-tailed.

were transformed as follows: foreign ownership using the second root, sales using natural logarithm, and the variables leverage, liquidity, and profitability using cosine.

Panel A, Table 4 presents the distribution of total voluntary disclosure scores for selected years. The level of voluntary disclosure is generally moderate over the nine-year study period. Comparing data for 1996 with that of 2000 and 2004, the table demonstrates an increase in the level of voluntary disclosure by Jordanian companies. By the year 2004, four companies had disclosed more than 50% of the items included in the disclosure index (three

in 2000). Also, in 1996, seven companies scored less than 10% of the voluntary disclosure index (five in 2000) whereas by 2004 only one company was in that category, thereby signifying a noticeable increase in the voluntary disclosure by the privatised firms. Panel B shows the distribution of privatisation across the time period of the study. By comparing the data in this panel with disclosure scores given in Panel A, the number of companies showing improvement in voluntary disclosure levels corresponds well with those being privatised.

The above findings are also confirmed by the comparisons of means of the extent of voluntary

Table 5
Pearson correlation matrix for explanatory variables

	<i>VDI</i>	<i>STO</i>	<i>FOW</i>	<i>INDOW</i>	<i>IOW</i>	<i>PNED</i>	<i>Sales</i>	<i>LEV</i>	<i>LIQ</i>
STO	0.230**								
FOW	0.602***	0.076							
INDOW	-0.210*	-0.373***	-0.077	-0.077					
IOW	-0.266**	-0.184*	-0.143	-0.352***					
PNED	0.284***	-0.170*	0.140**	0.395***	-0.198*				
Sales	0.436***	0.164	0.368***	-0.094	-0.198**	0.493***			
LEV	0.041	0.150	0.015	0.178*	-0.277**	0.054	-0.024		
LIQ	0.056	-0.121	0.117	0.004	0.004	0.070	0.053	-0.060	
PROF	0.004	-0.231**	-0.055	0.112	0.138	-0.119	0.063	-0.086	-0.032

***Correlation significant at 0.01 level (two-tailed);

** Correlation significant at 0.05 level (two-tailed);

* Correlation significant at 0.1 level (two-tailed).

disclosure (Panel C). It can be seen that the level of voluntary disclosure is generally lower in 1996 than in 2000 and that in 2004, with means of 0.1677 in 1996, 0.2196 in 2000 and 0.2635 in 2004 indicating an increase in the extent of voluntary disclosure in the annual reports of listed privatised Jordanian companies. Further, the results of the paired-*t* test were significant at the 0.01 level, thereby validating the above results (Panel D).

Table 5 depicts the Pearson correlation matrix of the dependent and independent continuous variables. The extent of voluntary disclosure is highly positively correlated with foreign ownership and sales, and to a lesser extent with the proportion of non-executive directors and state ownership. However, a negative correlation coefficient is reported for individual and institutional owners implying an association of these types of owners with less disclosure. The highest absolute correlation coefficient between the independent variables is (0.493) between the proportion of non-executive directors and net sales, implying that multicollinearity does not constitute a major problem.⁸

5.2. Pooled regression results

Table 6 provides the results for the pooled regression model using both the cross sectional and time series data. To accommodate panel data, we need to control for unobserved firm-specific and temporal effects. We believe that the inclusion of industry fixed effects would capture firm-specific effects since each firm exhibits the same characteristics as the whole industry. Further, the introduction of the

variable PRIV controls for any temporal changes in the firm's environment.

In order to conduct regression analysis, several assumptions must be satisfied, these are: linearity of relationships, absence of multicollinearity, the values of the dependent variable are normally distributed for the values of each of the independent variables; and the residuals have constant variance throughout the domain of the independent variables (homoscedasticity). Tests of multicollinearity are conducted using the Pearson correlation matrix and the variance inflation factor.⁹ To test for the assumption of a normally distributed residual error, histograms of the studentised residuals and normal plots are used. Homoscedasticity is tested using the studentised residuals plots against the predicted values of the dependent variable and the Breusch-Pagan/Cook-Weisberg test.

As Table 6, model 1 illustrates PRIV has a positive significant coefficient, supporting H1 and pointing to the significant influence of privatisation on the extent of voluntary disclosure. This result suggests that privatisation is successful in enhancing voluntary disclosure levels of privatised firms. The table also suggests that foreign investors are positively associated with voluntary disclosure levels supporting H1c.¹⁰ This confirms the superiority of foreign investors in demanding higher disclosure standards and undertaking more monitoring of management (Boubakri et al., 2005). The coefficient of individual ownership is negatively

⁸ A rule of thumb is that multicollinearity may be a problem if a correlation is > 0.7 in the correlation matrix formed by the independent variables.

⁹ The VIF values shown in Table 6 indicate absence of multicollinearity problems since they do not exceed 10 (Neter et al., 1989). The highest VIF value is 4.5 concluding that multicollinearity does not constitute a problem.

¹⁰ Foreign ownership variable is not significant when it is measured taking into account Arab ownership.

related to disclosure, while the coefficient of institutional investors is insignificant. The result of individual ownership is consistent with Hossain et al. (1994) and is evidence that the greater the individual shareholdings, the lesser the monitoring capacity. The result for institutional investors supports the view that they are primarily block owners relying on insider-provided information, hence reducing the need for public disclosure.

With respect to the regulatory reforms, the coefficients of LAW 1 and LAW 2 are significant, supporting H2a and H2b. This indicates that the accounting regulatory reforms through the enactment of the 1997 Company Law, the 1997 Temporary Securities Law and the 2002 Securities Law produce significant positive influences on the extent of voluntary disclosure of privatised Jordanian firms. Further, the coefficient of AC is highly significant, supporting H3b and implying that the presence of audit committees results in firms having higher voluntary disclosure. A somewhat surprising result is the insignificance of the non-executive directors (PNED) coefficient. A possible explanation for this result is due to the requirement of the 1997 Company Law that all directors on the board to be shareholders thereby jeopardising the independence of the non-executive directors, and hence reducing their role in monitoring management and in enhancing disclosure quality.

Regarding company characteristics, the variables Sales (net sales/revenues), AUD (auditor type) and IND1 (industry type 1) are all significantly associated with the extent of voluntary disclosure. The result for sales as a proxy for company size is consistent with almost all disclosure studies and the Meta analysis of Ahmed and Courtis (1999). Auditor type is negatively associated with the extent of voluntary disclosure (at the 0.05 level). The result of auditor type is consistent with the findings of Jordanian studies (Naser and Al-Khatib, 2000; Naser et al., 2002). Industry type 1 (infrastructure) is highly significant indicating that these firms are far superior in the extent of their information disclosure, reflecting the significance of their activities, hence the production of comprehensive and detailed information.

6. Additional analyses and robustness checks

6.1. Ownership, accounting regulatory reform and privatisation

So far, we have analysed different types of ownership and related them to corporate disclosure based on their incentives and abilities to monitor man-

agement. However, privatisation leads to the transfer of ownership from the state to private investors. In particular, privatisation facilitates the involvement of foreign investors who place greater emphasis on profit and efficiency (Boycko et al., 1996; Shleifer and Vishny, 1997), maintain strict monitoring of management actions and demand a high standard of comparable information disclosure (Dyck, 2001). Hence, if privatisation results in an increase in voluntary disclosure levels as it changes the ownership structure of privatised firms to those new owners; we would expect a more positive effect for those new owners with voluntary disclosure. To test whether privatisation enhances the positive association between ownership and voluntary disclosure levels in privatised firms we introduce an additional explanatory variable that reflects interaction of ownership variables with privatisation. Since institutional and individual owners do not produce a positive impact on voluntary disclosure, we only include an interaction term for foreign investors with privatisation.

Additionally, we examined the influence of governance and regulatory reforms on voluntary disclosure levels of privatised firms. Privatising governments significantly change their corporate governance arrangements, including changes to their legal systems, significantly restructuring their securities markets by establishment of a regulatory body similar to the US Securities and Exchange Commission, and establishment of listing and other regulations strengthening shareholders' protection and providing for adequate prevention of insider dealings (Megginson and Netter, 2001). If privatisation enhances the levels of voluntary disclosure when these reforms are implemented, then we would expect to find a positive interaction effect of the reforms and privatisation on voluntary disclosure. We examine this issue by including additional explanatory variables that reflect interaction of the reforms (pertaining to LAW 1, LAW 2 and AC)¹¹ with privatisation.

Table 6, Model 2 provides the results of the interaction terms. The coefficient of PRIV*FOW is significantly positive suggesting that changes in ownership as a result of privatisation to foreign investors has a more positive impact on voluntary disclosure. Further, the interaction coefficients of PRIV with LAW 1, LAW 2 and AC are all positively significant, thereby pointing to a more positive effect of the regulatory reforms accompanying privatisation on voluntary disclosure prac-

¹¹ We do not include PNED since this variable does not have any significant influence on voluntary disclosure.

Table 6
Pooled regression estimates for the privatised firms, N = 243 (1996–2004)

Variable	Predicted sign	Model 1 Without the interaction terms			Model 2 With the interaction		
		Coefficient	T-statistic	p-value	Coefficient	T-statistic	p-value
Constant	None	0.021	0.26	0.793	0.026	0.33	0.745
Privatisation (PRIV)	+	0.025	1.97	0.034**	0.052	1.92	0.038**
State ownership (STO)	?	0.0009	1.12	0.222	0.0009	1.39	0.148
Foreign ownership (FOW)	+	0.055	3.75	0.000***	0.052	3.95	0.000***
PRIV * FOW	+	—	—	—	0.035	1.78	0.053*
Individual ownership (INDOW)	?	-0.0004	-2.12	0.05**	-0.0005	-1.80	0.074*
Institutional ownership (IOW)	?	-0.0003	-0.14	0.778	0.0004	-0.34	0.718
LAW 1	+	0.029	2.14	0.023**	0.028	2.03	0.04**
PRIV*LAW 1	+	—	—	—	0.019	1.59	0.076*
LAW 2	+	0.026	2.65	0.009***	0.025	2.56	0.011**
PRIV*LAW 2	+	—	—	—	0.017	1.76	0.072*
Percentage of non-executive directors (PNED)	+	0.019	0.60	0.549	0.016	0.50	0.617
Audit committee (AC)	+	0.054	2.03	0.03**	0.053	1.96	0.036**
PRIV*AC	+	—	—	—	0.058	1.79	0.054*
Sales (SIZE)	+	0.088	1.41	0.084**	0.007	1.66	0.080**
Leverage (LEV)	+	0.01	0.78	0.442	0.007	0.60	0.550
Liquidity (LIQ)	+	-0.018	-1.29	0.101	-0.019	-1.47	0.073*
Return on equity (PROF)	+	0.008	0.70	0.269	0.012	1.02	0.15
Auditor type (AUD)	+	-0.026	-2.03	0.029**	-0.023	-1.61	0.046**
Industry 1 (IND 1)	+	0.225	5.59	0.000***	0.231	5.79	0.000***
Industry 3 (IND 3)	—	-0.002	-0.11	0.465	-0.004	-0.22	0.424
R-Sq			77.9%			82.5%	
R-Sq (adj)			75.7%			79.4%	
F			20.96	0.000***		16.98	0.000***

*** Significant at the 0.01 level (all probabilities are one-tailed except the constant, STO, INDOW and IOW); ** Significant at the 0.05 level; * Significant at the 0.1 level; PRIV = Dummy variable; 1 when the firm is privatised onward; 0 before; STO = total percentage of ordinary shares held by the state; FOW = Total percentage of ordinary shares held by foreign investors; PRIV*FOW = Interaction term between privatisation and foreign ownership; INDOW = Total percentage of ordinary shares held by domestic individuals; IOW = Total percentage of ordinary shares held by institutional investors; LAW1 = Dummy variable: 1 starting from the date when the 1997 Company Law and the 1997 Temporary Securities Law are enacted, and zero otherwise; PRIV*LAW 1 = Interaction term between privatisation and LAW 1, LAW2 = Dummy variable: 1 starting from the date when the 2002 Securities Law is enacted, and zero otherwise; PRIV*LAW 2 = Interaction term between privatisation and LAW 2; PNED = The number of outside directors to the total number of directors on the board; AC = Dummy variable: 1 if an audit committee is present, 0 otherwise; PRIV*AC = Interaction term between privatisation and AC; Sales (SIZE) = Net sales/revenues; LEV = Ratio of total liabilities to shareholders' equity; LIQ = Ratio of current assets to current liabilities; PROF = Return on equity; AUD = Dummy variable: 1 if auditor is one of the Big auditing firms, 0 otherwise; IND1 = 1 if infra-structure, 0 otherwise; IND2 = 0 default level; IND3 = 1 if services, 0 otherwise.

tices of privatised Jordanian firms. These results suggest that the effect of foreign investors, the mandate of audit committees and the regulatory reforms are more positive when accompanying privatisation.

6.2. Privatisation and time effect

In this section, we consider whether the increase in the level of voluntary disclosure is due to privatisation and the accompanying regulatory reforms and not to time effects. To control for time effects, we compare firms that were privatised early with firms that were privatised later on.¹² However, this would limit the analysis to the first years of privatisation (from 1996 to 2000); therefore, we perform a second comparison over the rest of the privatisation period (from 2000 to 2004) between firms that were privatised later on and private firms (firms that were not subject to privatisation).

We first compare two sets of firms; firms that were privatised before 2000 with firms that were privatised after 2000¹³ over the first five years of the study (1996–2000). Accordingly, the comparison process is conducted between 65 observations in the first set (13 annual reports per year), with 55 observations in the second (11 annual reports per year).¹⁴ Table 7 presents the results of the first comparison. As the table indicates, privatisation, foreign ownership, LAW 1 (the 1997 Company Law and the 1997 Temporary Securities Law), PNED (the percentage of non-executive directors), and AC (audit committees) are all significant, confirming the results of the previous regression models. All coefficients of the year dummy variables are not significant implying that time did not have a significant impact on voluntary disclosure of privatised firms and that the improvement in disclosure practices is due to privatisation and the accompanying reforms.

The results of the matching group of late privatised firms show that LAW 1 is significant, while foreign ownership, PNED and AC are all insignificant. These results can be interpreted as follows: privatised firms attract foreign investment and comply better with the requirements of the 1997 Company Law, hence enhancing their voluntary

disclosure levels. Coefficients of the year dummy variables are again insignificant.

The second comparison matches two sets of firms; firms that were privatised between 2000 and 2004, and compares them with privately owned firms over the same period. Therefore, the matching process is conducted between 70 observations in the first set (14 annual reports per year over a five-year period) with 70 observations in the second (14 annual reports per year). Table 8 shows the results of the two groups of firms. For the first group of late privatised firms, privatisation, foreign ownership (FOW), LAW2 and audit committee (AC) are all positively related to voluntary disclosure, while the variables FOW, LAW2 and AC are positively related with voluntary disclosure of private firms. These findings confirm the results found earlier that privatisation, the accompanying reforms and foreign investors have influenced voluntary disclosure. The results also show that the regulatory reforms and foreign investment have influenced private Jordanian firms. The results for the year dummy variables suggest that time did not play a significant role in influencing the level of voluntary disclosure of Jordanian firms. All models show that Sales and IND1 are significant supporting the previous findings.¹⁵

While private firms in the second comparison show significant results for foreign ownership and audit committees, state-owned firms in the first comparison do not. This can be due to the weak governance of state-owned firms which led to lessening the role of audit committees in enhancing disclosure practice. Also, the positive impact of foreign ownership in private firms is explained in light of our earlier arguments that foreign investment is attracted to all firms in the privatising country.

We repeat the previous analyses after dropping the variable PRIV from the models of the privatised groups. Untabulated results indicate that there is no significant shift in coefficient values of the year dummy variables.

6.3. Robustness checks

We undertake an untabulated test to ascertain the robustness of our results. We repeat the previous multivariate analyses using the normal scores approach and the rank transformation approach. The normal scores approach was advocated by Cooke (1998) as having a number of advantages, namely that a normally distributed dependent

¹² This is an alternative procedure to comparing privatised firms with state-owned ones since Jordan has privatised most of its state-owned firms.

¹³ Three firms were privatised in 2000 and were excluded from the comparison.

¹⁴ The size of the sample firms used in the comparison is small; however, the use of time series data improves the sample size and provides accurate inferences of model parameters (Hsiao, 2005).

¹⁵ In the non-privatised group (Table 8), there are no infrastructure firms, hence IND1 variable is absent.

Table 7
Pooled regression estimates for early privatised against late privatised firms

Variable	Predicted sign	Early privatised firms (from 1996 to 2000)			Late privatised firms (from 2000 to 2004)		
		Coefficient	T-statistic	p-value	Coefficient	T-statistic	p-value
Constant	None	-0.022	-0.51	0.611	-0.383	-2.17	0.041**
Privatisation (PRIV)	+	0.386	2.13	0.048**	-	-	-
State ownership (STO)	?	0.0009	1.25	0.256	0.001	1.52	0.135
Foreign ownership (FOW)	+	0.030	2.41	0.021**	0.008	0.45	0.655
Individual ownership (INDOW)	?	-0.0007	-1.29	0.237	-0.001	-2.58	0.014**
Institutional ownership (IOW)	?	0.0006	1.53	0.136	-0.0007	-0.86	0.397
LAW 1	+	0.022	1.96	0.032**	0.042	1.75	0.05**
Percentage of non-executive directors (PNED)	+	0.128	1.50	0.079*	0.020	0.32	0.749
Audit committee (AC)	+	0.052	1.82	0.047**	0.014	0.34	0.735
Sales (SIZE)	+	0.040	2.09	0.028***	0.033	2.77	0.006***
Leverage (LEV)	+	0.005	0.62	0.539	0.005	0.45	0.656
Liquidity (LIQ)	+	-0.010	-0.75	0.456	-0.010	-0.87	0.389
Return on equity (PROF)	+	0.0001	0.15	0.881	0.002	2.32	0.015**
Auditor type (AUD)	+	0.042	1.87	0.045*	0.011	0.59	0.557
Industry 1 (IND 1)	+	0.244	4.75	0.000***	0.149	3.49	0.000***
Industry 3 (IND 3)	-	-0.009	-0.91	0.365	-0.036	-1.85	0.046**
1997	?	-0.017	-0.77	0.448	-0.044	-1.41	0.146
1998	?	-0.012	-0.58	0.565	-0.039	-1.22	0.233
1999	?	-0.009	-0.49	0.630	-0.024	-0.83	0.427
2000	?	-0.002	-0.11	0.723	-0.012	-0.65	0.518
R-Sq			72.5%			72.3%	
R-Sq (adj)			70.1%			67.2%	
F			13.98	0.000***		13.36	0.000***

*** Significant at the 0.01 level (all probabilities are one-tailed except the constant, STO, INDOW and IOW); **Significant at the 0.05 level; * Significant at the 0.1 level; PRIV= Dummy variable; 1 when the firm is privatised onward; 0 before; STO = total percentage of ordinary shares held by the state; FOW = Total percentage of ordinary shares held by foreign investors; INDOW= Total percentage of ordinary shares held by domestic individuals; IOW = Total percentage of ordinary shares held by institutional investors; LAW1 = Dummy variable: 1 starting from the date when the 1997 Company Law and the 1997 Temporary Securities Law are enacted, and zero otherwise; PNED = The number of outside directors to the total number of directors on the board; AC = Dummy variable: 1 if an audit committee is present, 0 otherwise; Sales (SIZE)=Net sales/revenues; LEV = Ratio of total liabilities to shareholders' equity; LIQ = Ratio of current assets to current liabilities; PROF = Return on equity; AUD = Dummy variable: 1 if auditor is one of the Big auditing firms, 0 otherwise; IND1 = 1 if infra-structure, 0 otherwise; IND2 = 0 default level; IND3 = 1 if services, 0 otherwise; 1996 = default level; 1997 = Dummy variable, 1 = 1997 and 0 otherwise; 1998 = Dummy variable, 1 = 1998 and 0 otherwise; 1999 = Dummy variable, 1 = 1999 and 0 otherwise; and 2000 = Dummy variable, 1 = 2000 and 0 otherwise.

Table 8
Pooled regression estimates for late privatised against non-privatised firms

<i>Variable</i>	<i>Predicted sign</i>	<i>Late privatised firms (from 2000 to 2004)</i>			<i>Non-privatised firms (from 2000 to 2004)</i>		
		<i>Coefficient</i>	<i>T-statistic</i>	<i>p-value</i>	<i>Coefficient</i>	<i>T-statistic</i>	<i>VIF</i>
Constant	None	-0.537	-2.56	0.023**	-0.475	-1.98	0.053
Privatisation (PRIV)	+	0.386	2.13	0.023**	—	—	—
State ownership (STO)	?	-0.0009	-0.94	0.349	0.029	0.43	0.668
Foreign ownership (FOW)	+	0.140	3.21	0.000***	0.012	1.76	0.05**
Individual ownership (INDOW)	?	-0.002	-2.30	0.025**	-0.002	-2.15	0.025**
Institutional ownership (IOW)	?	-0.001	-1.47	0.147	-0.001	-0.63	0.506
LAW 2	+	0.014	1.77	0.048**	0.050	1.83	0.037**
Percentage of non-executive directors (PNED)	+	0.037	1.04	0.19	0.093	1.03	0.307
Audit committee (AC)	+	0.038	1.68	0.043**	0.048	1.95	0.028**
Sales (SIZE)	+	0.049	2.92	0.005***	0.035	2.39	0.01***
Leverage (LEV)	+	0.023	1.49	0.07*	0.010	1.62	0.06*
Liquidity (LIQ)	+	-0.003	-0.85	0.398	-0.024	-1.35	0.10*
Return on equity (PROF)	+	-0.0002	-0.20	0.845	0.018	1.18	0.242
Auditor type (AUD)	+	0.017	0.52	0.606	0.045	0.65	0.518
Industry 1 (IND 1)#	+	0.444	4.56	0.000***	—	—	—
Industry 3 (IND 3)	-	0.047	1.03	0.381	0.008	0.08	0.824
2001	?	0.008	0.34	0.734	-0.010	-0.41	0.722
2002	?	-0.01	-0.35	0.726	-0.032	-0.50	0.631
2003	?	-0.024	-0.69	0.496	-0.005	-0.56	0.556
2004	?	-0.034	-0.86	0.394	-0.004	-0.69	0.491
R-Sq			69.9%			55.3%	
R-Sq (adj)			64.2%			43.8%	
F			12.84	0.000***		11.04	0.000***

*** Significant at the 0.01 level (all probabilities are one-tailed except the constant, STO, INDOW and IOW); ** Significant at the 0.05 level; * Significant at the 0.1 level; PRIV = Dummy variable; 1 when the firm is privatised onward; 0 before; STO = total percentage of ordinary shares held by the state; FOW = Total percentage of ordinary shares held by foreign investors; INDOW = Total percentage of ordinary shares held by domestic individuals; IOW = Total percentage of ordinary shares held by institutional investors; LAW2 = Dummy variable: 1 starting from the date when the 2002 Securities Law is enacted, and zero otherwise; PNED = The number of outside directors to the total number of directors on the board; AC = Dummy variable: 1 if an audit committee is present, 0 otherwise; Sales (SIZE) = Net sales/revenues; LEV = Ratio of total liabilities to shareholders' equity; LIQ = Ratio of current assets to current liabilities; PROF = Return on equity; AUD = Dummy variable: 1 if auditor is one of the Big auditing firms, 0 otherwise; IND1 = 1 if infra-structure, 0 otherwise; IND2 = 0 default level; IND3 = 1 if services, 0 otherwise; 2000 is the default level; 2001 = Dummy variable, 1 = 2001 and 0 otherwise; 2002 = Dummy variable, 1 = 2002 and 0 otherwise; 2003 = Dummy variable, 1 = 2003 and 0 otherwise; 2004 = Dummy variable, 1 = 2004 and 0 otherwise.

There are no industry type 1 firms in the sample of non-privatised firms.

variable implies that the errors are normally distributed and that the significance tests are meaningful and have greater power. Haniffa and Cooke (2002), Camfferman and Cooke (2002) and Ghazali and Weetman (2006) all use normal score transformation. Rank transformation has great advantages when the data is monotone and non-linear in nature (Iman and Conover, 1979). Beaver et al. (1979), Cheng et al. (1992), Lang and Lundholm (1993), Wallace et al. (1994), Wallace and Naser (1995), Abd-Elsalam and Weetman (2003) and Ali et al. (2004) all utilise rank transformation. The results of the normal scores and rank regression transformed models are consistent with the results of the earlier models, validating our results and supporting the findings.

7. Conclusion

This paper examined the influence of privatisation on the extent of voluntary disclosure of 243 observations of privatised firms in Jordan over a period of nine years from 1996 to 2004. We employed a scoring system to develop a VDI and used univariate and multivariate tests to investigate the influence of privatisation on the extent of voluntary disclosure. Our univariate test results show that voluntary disclosure levels have significantly improved after privatisation in Jordan.

The paper further accounted for the dynamic effects of privatisation and the accompanying accounting regulatory measures and changes in ownership through the use of panel data. The results support the hypothesis that privatisation has positively influenced the extent of voluntary disclosure. Foreign investment appears to be significantly associated with voluntary disclosure. This association is positively influenced by privatisation, which is consistent with the impact of privatisation resulting in the transfer of ownership to foreign investors. However, the involvement of the other types of owners has no influence on the extent of voluntary disclosure. Further, the accounting regulatory reforms produced significant positive influence on the extent of voluntary disclosure, and this influence is more pronounced as a result of privatisation. Company size and industry type 1 are found to be significantly related with voluntary disclosure practices by Jordanian firms. Liquidity and auditor type are negatively associated with voluntary disclosure.

Finally, using a methodology that controls for time effects, we show that time has not influenced the level of voluntary disclosure, while privatisation, the accompanying reforms and the attraction of foreign ownership have all positively influenced the

level of voluntary disclosure of Jordanian listed firms. Taken together, we conclude that the extent of voluntary disclosure improves significantly as a result of privatisation, and that regulatory reforms and foreign investors account for a significant fraction of that improvement.

The findings of the study are timely, given the significance and the effort put into the Jordanian privatisation programme and the accompanying reforms. However, the results indicate that individual and institutional investors need to be more effective in monitoring management which in turn will have a positive effect on share value. This might be achieved by enacting new regulations that enhance shareholders' role in the governance of the firm.

The study has some limitations. It did not account for the influence of certain economic reforms that accompany privatisation such as price deregulation and market liberalisation which would have an impact on firms' efficiency that, in turn, would influence disclosure. Future research could investigate the impact of these factors on corporate voluntary disclosure.

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Statistical inference using the *T* index to quantify the level of comparability between accounts

Professor Ross H. Taplin*

Abstract — The extent to which the accounts of companies are comparable is considered important to users and regulators. However, prior research has been restricted by a lack of appropriate statistical methods for testing comparability indices. This has made it difficult to assess the true level of comparability from sample data and to test research hypotheses such as whether the level of comparability (a) differs by policy, (b) differs by country, and (c) changes over time.

This paper fills this gap by exploring the statistical properties of the *T* index. The *T* index generalises the *H*, *C*, *I* and various modifications of these indices and represents a unified framework for the measurement of the extent to which the accounts of companies are comparable. Formulae for the bias and standard error for any index under this framework are provided and proved. The bias is shown to equal zero or be negligible in most practical situations. Using historical data, the standard error is used to illustrate the accuracy with which comparability is estimated and to perform formal statistical inference using confidence intervals and *p*-values. Furthermore, the sampling distribution of the *T* index is assessed for normality. Implications for research design and sample size determination are also discussed.

Keywords: Herfindahl *H* index; *C* index; harmony; standardisation

1 Introduction

The *T* index was introduced by Taplin (2004) to quantify the degree to which the accounts of companies are comparable. It is easily interpreted as the probability that two randomly selected companies have accounts that are comparable, or as the average comparability of pairs of companies. The *T* index is a generalisation of the *H*, *I* and *C* indices introduced by van der Tas (1988), and is a framework containing countless individual indices. Many authors have made minor modifications to the basic *H*, *I* and *C* indices to deal with issues such as non-disclosure of the accounting method by a company and many of these are also special cases of the unified approach described by the *T* index. For details of the history of these indices, references to these modifications, literature using these indices, and literature that considers alternative definitions of harmony or related ideas of harmonisation, uniformity and standardisation, the reader is referred to Taplin (2004), the literature review Ali

(2005), or Cole et al. (2008), as well as the references contained within these articles.

This paper uses the term ‘comparability’ in place of the more traditional term ‘harmony’ used in Taplin (2004) and by papers going back to van der Tas (1988). This is to avoid confusion over terms harmonisation, standardisation and uniformity that potentially have different meanings and positive or negative connotations to different readers (Tay and Parker, 1990). Cole et al. (2008) summarise the changing landscape concerning different perspectives on these terms and on the uniformity-flexibility dilemma when it comes to the extent to which all companies should be forced to use the same method on one extreme, or allowed to use any method they choose on the other extreme. Barth et al. (1999) use a mathematical model to investigate, under several assumptions, the impact of changes such as harmonising domestic regulations in two countries on characteristics such as security market performance. They conclude from their theoretical model that harmonisation is not necessarily desirable.

This paper is concerned with the measurement of the extent to which the actual accounts of companies are comparable. This is important regardless of philosophical perspectives or opinions concerning the uniformity-flexibility continuum and regardless of current regulations because there will always be an interest in knowing the extent to which the accounts prepared by companies are comparable. Comparability is important in concepts such as

*The author is at the School of Accounting, Curtin Business School at Curtin University in Perth, Australia. He acknowledges the constructive comments of the reviewers and the editor that have led to significant improvements to the presentation of this paper.

Correspondence should be addressed to: Professor Ross H. Taplin, School of Accounting, Curtin Business School, Curtin University, GPO Box U1987, Perth 6845, Australia. E-mail: R.Taplin@curtin.edu.au.

Note: The Harmoniser software that calculates the *T* index is available free of charge from the author.

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harmonisation, standardisation and uniformity but this paper makes no statement about the preferred position on the uniformity-flexibility continuum. This paper specifically concerns statistical sampling issues when measuring the extent to which company accounts are comparable.

The *T* index is flexible concerning what it means for the accounts of two companies to be comparable. For example, two companies both using FIFO would normally be considered comparable. Companies not disclosing their method, using a combination of methods (FIFO for some inventory and average cost for other inventory) or using multiple methods (results using FIFO for all inventory in addition to results of using average cost for all inventory), for example, must have their comparability defined in a sensible way. Consider a company using FIFO for some of its inventory and average cost for its other inventory and a second company using FIFO for all its inventory. Simple indices prior to the *T* index would consider the accounts of these companies to be completely non-comparable because they are defined to be using different accounting methods. With the *T* index, these accounts can be defined to be completely comparably or partially comparable. For example, if two-thirds of the inventory of the first company was costed using FIFO these two companies might be defined as two-thirds comparable (see Astami, 2006) for further application of partial comparability). Alternatively, the accounts of these companies may be considered completely comparable with the *T* index if they each use the most appropriate method for their circumstances and their type of inventory.

Similarly, consider two companies using straight line for depreciation but one company depreciates over three years while the other depreciates over five years for the same type of asset. Simple indices prior to the *T* index were forced to consider these as the same method, and therefore completely comparable with each other, or different methods, and therefore completely non-comparable with each other. The *T* index, however, allows the level of comparability to be partial (a value between zero representing completely non-comparable and one representing completely comparable). Furthermore, if straight line was used for an asset that depreciated non-linearly there is a strong case that comparability is weak with the accounts of a company correctly depreciating along a straight line. In this instance it may be necessary to define two different accounting methods, both methods are for companies using straight line depreciation however one is for companies where this is appropriate and the other

is for companies where it is inappropriate. This flexibility makes the *T* index applicable in many situations but also demands careful reasoning and justification for an appropriate definition of comparability rather than just using a simple but convenient index.

While not the topic of this paper, the *T* index is sufficiently flexible to allow very different concepts of comparability. For example, two companies that both use straight line depreciation over the same time period for the same asset, when the asset actually depreciates exponentially, may be considered non-comparable because both are unreliable or inaccurate assessments of the companies. However, if we separate the desirable qualitative characteristics of reliability from comparability for company accounts, we could define these two companies to be completely comparable (but both unreliable). For example, if both companies have identical accounts but both over-estimate their depreciation (by the same amount) we correctly conclude these companies have identical accounts so our comparability is not compromised even though the reliability is low for each company. Reliability is not considered in this paper although it is possible to require reliability before accounts are defined to be comparable. The focus of this paper centres on techniques of statistical inference for comparability indices for any definition of comparability because the results in this paper hold for any comparability index within the *T* index framework. Furthermore, as revealed by correspondence with reviewers, the concept of a sensible definition of comparability involves subjective opinions and can change over time and with the circumstances in which it is applied.

The adoption of International Financial Reporting Standards (IFRS) is expected to enhance comparability of accounts but many countries have not yet agreed to follow IFRS and within IFRS policy choice is still allowed. Nobes (2006) argues international differences will persist under IFRS and proposes a research agenda with many research hypotheses concerned with the extent to which company accounts in different countries are comparable. Cole et al. (2008) argue that differences in the application of IFRS will lead to persistent lack of comparability, and in their review concluded the *T* index was the most appropriate methodology for measuring comparability. Nevertheless, without appropriate statistical inference techniques to develop and test research hypotheses (or just quantify the accuracy of comparability estimated from samples), research using the *T* index, such as Astami et al. (2006) and Cole et al. (2008), is

hampered. More recently, Cairns et al. (2009) successfully applied the results outlined in this paper to investigate changes in comparability for UK and Australian companies around the time of adoption of IFRS.

The need for statistical inference in research is well understood. Knowing a sample estimate of a population quantity is arguably of no value if a measure of the accuracy of this estimate cannot also be provided. This was recognised very early in the development of indices for accounting comparability, as expressed by Tay and Parker (1990) '[t]he main problem with concentration indices is that no significance tests have been devised to indicate how trivial or significant (statistically) variations in index values are'. Taplin (2003) responded by providing formulae for the bias and standard error of the H index and C index. Unfortunately, these formulae only apply to two specific indices that are suitable for specific research questions and only for data with specific characteristics. For example, the formulae in Taplin (2003) do not apply if the accounts of a company are comparable with companies using several different accounting methods or if comparisons between companies in different countries are required. The T index was developed precisely to provide a framework whereby indices with desirable characteristics could be chosen from within a unified framework.

This paper therefore adds to Taplin (2004) by providing the necessary details to enable statistical inference to be performed with any index within the T index framework. This will greatly enhance research using the T index to quantify the level of comparability.¹

The rest of this paper is structured as follows. Section 2 contains an overview of the T index. Section 3 provides formulae for the bias and standard error of the T index and for the special cases known as the H , I , C and between country C and within country C indices. This forms the major mathematical results of the paper. Herrmann and Thomas (1995) reported an example using data on nine measurement practices from eight countries

but without any analysis of statistical significance. In Sections 4 to 7 we provide full statistical results using this data: Section 4 overall indices; Sections 5 and 6 comparisons of fairness and legalistic countries with different treatments of non-disclosure, and Section 7 the two-country I index. Section 8 investigates empirically the sampling distribution of the T index. Section 9 shows how the formula for the standard error for the T index can be used to perform sample size calculations. Section 10 contains some concluding discussion. The Appendix contains the formulae to calculate the standard error of the T index and a mathematical derivation of the formulae for the bias and standard error.

2. The T index

The T index is easily interpreted as the probability that two randomly selected companies have accounts that are comparable, or as the average comparability of pairs of companies. This requires defining the comparability between pairs of accounting methods and how the random sampling of companies is performed. This is achieved by specifying coefficients α_{kl} and β_{ij} respectively, with different choices of these coefficients resulting in different specific indices from within the T index framework. The α_{kl} specify the level of comparability between accounting methods k and l . For example, whether companies using FIFO for inventory are comparable to companies not disclosing their method. The β_{ij} specify the way companies are randomly selected. For example, requiring the two selected companies for comparison to be from different countries results in a measure of international comparability.

The general formula for T is given by

$$T = \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} p_{ki} p_{lj} \quad (1)$$

where

- α_{kl} is the coefficient of comparability between accounting methods k and l ,
- β_{ij} is the weighting for the comparison between companies in countries i and j ,
- p_{ki} is the proportion of companies in country i that use accounting method k ,
- p_{lj} is the proportion of companies in country j that use accounting method l ,

and there are N countries (labelled 1 to N) and M accounting methods (labelled 1 to M).

As discussed in the introduction, an accounting method is not necessarily equivalent to a procedure such as straight line depreciation because we may

¹ Determinant studies, such as Jaffar and McLeay (2007), provide a different but complementary approach to indices considered in this paper. Indices of comparability are valuable because they quantify comparability directly, emphasise whether companies are comparable, often concentrate on country differences which are commonly found to be the major determinant of policy choice and can be used to investigate which countries, regions or industries contain companies whose accounts are highly comparable. Finally, an index of harmony is a concise summary statistic that is a useful addition to research findings in a similar way to a correlation coefficient or regression R-squared value is, even when these summary statistics are not the major focus of the research.

Figure 1**Options for the T index under four criteria****Company/country weightings**

(1a) companies are weighted equally, $b_i = n_i/n$, where n_i is the number of companies from country i in the sample and n is the total number of companies in the sample, so b_i is the proportion of companies in the sample from country i . This means a country receives weight proportional to the number of companies sampled from that country.

(1b) countries are weighted equally, $b_i = 1/N$, where N is the number of countries,

(1c) countries are weighted according to the total population number of companies in each country,

$b_i = u_i / \sum_{i=1}^N u_i$ where u_i is the total number of companies in country i (for example, the total number of companies listed on the stock exchange rather than the number of companies in the sample).

International focus

(2a) overall, $\beta_{ij} = b_i b_j$,

(2b) within country, $\beta_{ij} = 0$ if $i \neq j$ and when $i = j$, $\beta_{ii} = b_i^2 / \sum_{i=1}^N b_i^2$,

(2c) between country, $\beta_{ij} = b_i b_j / \sum_{i=1}^N \sum_{j \neq i} b_i b_j$ if $i \neq j$ and when $i = j$, $\beta_{ii} = 0$, where the summation for j is over all countries 1 to N except for country i .

Multiple accounting policies

(3a) multiple accounting policies are not allowed, $\alpha_{kl} = 0$ if $k \neq l$,

(3b) multiple accounting policies are allowed if completely comparable, $\alpha_{kl} = 1$ when methods k and l are completely comparable and $\alpha_{kl} = 0$ when they are completely incomparable,

(3c) multiple accounting policies are allowable with fractional comparability, α_{kl} takes a value on the continuum from 0 (completely incomparable) to 1 (completely comparable).

Non-disclosure

Here it is assumed non-disclosure is the last accounting method M .

(4a) not applicable, companies who do not disclose a method are removed from the sample,

(4b) comparable to everything, $\alpha_{kM} = \alpha_{Ml} = \alpha_{MM} = 1$ for all accounting methods k and l ,

(4c) comparable to nothing, $\alpha_{kM} = \alpha_{Ml} = \alpha_{MM} = 0$ for all accounting methods k and l ,

(4d) comparable to the standard (or default) method s , $\alpha_{ks} = \alpha_{kM}$, $\alpha_{s'l} = \alpha_{Ml}$ for all k and l .

require the same period of depreciation, type of asset or suitability of this method in the circumstances before we define companies to be using the same method. Thus the term accounting method is used as a generic label as it has been in the past literature on comparability indices. In particular, non-disclosure of a method or non-applicability of any method are defined to be accounting methods.

In order to ensure that T is between 0 (no two companies are comparable) and 1 (all companies are comparable with each other) we require the α_{kl} and β_{ij} to be between 0 and 1 (inclusive) and that the β_{ij} sum to 1. The α_{kl} define the comparability between accounting methods k and l , with $\alpha_{kl} = 0$ specifying that the two accounting methods are completely non-comparable and $\alpha_{kl} = 1$ specifying that the two accounting methods are completely comparable. The β_{ij} specify weights for comparisons between companies from countries i and j . For

example, β_{ii} specifies the weight given to the comparability of companies from country i while β_{ij} ($i \neq j$) specifies the weight given to comparisons of companies from country i with companies from country j .

Although the coefficients α_{kl} and β_{ij} can be selected very generally to suit the particular data and research questions under analysis, in practice they can be determined by selecting from some intuitive options under four criteria. The four criteria and their respective options, summarised in Figure 1, are discussed in detail in Taplin (2004) and Taplin (2006). The first two criteria define the β_{ij} and the last two criteria define the α_{kl} .

Thus the T index represents an extremely flexible framework containing an uncountable number of specific indices, including many simpler indices. The H index equals the T index under options 1a2a3a4a but is usually applied to a single country.

Table 1
Data X_{ki} format for an example taken from Herrmann and Thomas (1995) for inventory costing

Accounting method (k)	Country (i)								Total
	Den ($i=1$)	Ire ($i=2$)	Neth ($i=3$)	UK ($i=4$)	Bel ($i=5$)	Fra ($i=6$)	Ger ($i=7$)	Por ($i=8$)	
FIFO ($k=1$)	9	8	9	7	2	5	0	2	42
LIFO ($k=2$)	0	0	1	0	6	2	15	0	24
Average ($k=3$)	2	0	0	2	8	11	3	9	35
Combination ($k=4$)	1	0	1	3	3	6	1	8	23
Not disclosed ($k=5$)	18	16	19	18	4	6	11	1	93
Sample size (n_i)	30	24	30	30	23	30	30	20	217

The H and T indices employ sampling with replacement when selecting two companies for comparison while the C index employs sampling without replacement. Taplin (2004) provides reasons why sampling with replacement is preferable, but in practice both index values will be almost identical unless sample sizes are very small. Similarly, the within country C index gives almost identical values to the T index under options 1a2b3a4a. The between-country C index and T index under options 1a2c3a4a give identical results since sampling with or without replacement are equivalent when only one company is selected from each country. For two countries, the I index equals the between-country C index (Morris & Parker, 1998) and T index (options 1a2c3a4a) but for more than two countries the I index is not a special case of the T index. See Taplin (2004) for a review of undesirable properties of the I index with more than two countries.

This paper takes illustrative data and examples from Herrmann and Thomas (1995) to illustrate the methods in this paper. Their study is well known as a comparative evaluation, has moderate sample sizes, the data is already published so results in this paper can be verified, their examples include issues such as non-disclosure and combination methods, and the effect of different methods on conclusions can be seen more clearly because the same data has been examined in the literature using different methods.

Table 1 illustrates the format of the data required for the T index using an example for inventory costing from Herrmann and Thomas (1995). In this example there are $N=8$ countries and $M=5$ accounting methods for inventory costing (non-disclosure of the treatment of inventory costing is the fifth 'method'). Countries are referred to by the index i ($i=1$ to N) and accounting methods are referred to by the index k ($k=1$ to M). The data consists of the number of companies in country i using method k , denoted X_{ki} and displayed in

Table 1. Sample sizes for each country, denoted n_i are also provided.

We illustrate the calculation of the T index under options 1a2a3a4a. This means that companies are weighted equally, all companies regardless of country are compared (overall international focus), multiple accounting policies do not exist and companies not disclosing a method are removed (leaving only $M=4$ methods). We use these options for illustrative purposes only and do not suggest they are the most appropriate options for this data. In this case Equation (1) is a summation of $4 \times 4 \times 8 \times 8 = 1,024$ terms, although at least 75% (or $12 \times 8 \times 8 = 768$) of these terms equal zero because 12 of the 16 α_{kl} equal zero. Nevertheless, the T index generally contains a large number of terms and a systematic approach is required. This is provided by the observation that Equation (1) can be written as

$$T = \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} p_{ki} p_{lj} = \sum_{i=1}^N \sum_{j=1}^N \beta_{ij} T_{ij}$$

where

$$T_{ij} = \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} p_{ki} p_{lj}$$

is the two-country index quantifying the level of harmony between country i and country j and β_{ij} are the weights assigned to the T_{ij} when computing the weighted average. With options 3a and 4a the α_{kl} equal zero when $k \neq l$ and the α_{kk} equal one, so T_{ii} simplifies to the H index for country i and T_{ij} ($i \neq j$) simplifies to the I index for countries i and j . These values are provided in Table 2 with the calculation of T_{11} and T_{31} illustrated beneath the table.

The value of $T = \sum_{i=1}^N \sum_{j=1}^N \beta_{ij} T_{ij}$ is a weighted average of the T_{ij} values in Table 2. The weights in this average under options 1a and 2a are $\beta_{ij} = b_i b_j = n_i n_j / n^2$ where n_i is the sample size

Table 2

T_{ij} under options 3a4a (with standard errors in parentheses). Diagonal entries T_{ii} equal H indices for country i and off-diagonal entries T_{ij} ($i \neq j$) equal two-country I (or equivalently between-country C) indices. The T index equals a weighted sum of the T_{ij} values.

	<i>Den</i>	<i>Ire</i>	<i>Neth</i>	<i>UK</i>	<i>Bel</i>	<i>Fra</i>	<i>Ger</i>	<i>Por</i>
Denmark ($n_1 = 12$)	0.60 (0.14)	0.75 (0.13)	0.62 (0.13)	0.49 (0.11)	0.16 (0.06)	0.25 (0.06)	0.03 (0.02)	0.19 (0.07)
Ireland ($n_2 = 8$)	0.75 (0.13)	1.00 (0.00)	0.82 (0.12)	0.58 (0.14)	0.11 (0.07)	0.21 (0.08)	0.00 (0.00)	0.11 (0.07)
Netherlands ($n_3 = 11$)	0.62 (0.13)	0.82 (0.12)	0.69 (0.16)	0.50 (0.12)	0.13 (0.06)	0.20 (0.07)	0.08 (0.07)	0.12 (0.06)
UK ($n_4 = 12$)	0.49 (0.11)	0.58 (0.14)	0.50 (0.12)	0.43 (0.11)	0.17 (0.05)	0.26 (0.05)	0.04 (0.03)	0.25 (0.06)
Belgium ($n_5 = 19$)	0.16 (0.06)	0.11 (0.07)	0.13 (0.06)	0.17 (0.05)	0.31 (0.06)	0.28 (0.05)	0.32 (0.08)	0.28 (0.06)
France ($n_6 = 24$)	0.25 (0.06)	0.21 (0.08)	0.20 (0.07)	0.26 (0.05)	0.28 (0.05)	0.32 (0.06)	0.15 (0.05)	0.34 (0.05)
Germany ($n_7 = 19$)	0.03 (0.02)	0.00 (0.00)	0.08 (0.07)	0.04 (0.03)	0.32 (0.08)	0.15 (0.05)	0.65 (0.12)	0.10 (0.05)
Portugal ($n_8 = 19$)	0.19 (0.07)	0.11 (0.07)	0.12 (0.06)	0.25 (0.06)	0.28 (0.06)	0.34 (0.05)	0.10 (0.05)	0.41 (0.06)

Examples:

From the number of companies using each method in each country (see Table 1):

$$T_{11} = (9/12)^2 + (0/12)^2 + (2/12)^2 + (1/12)^2 = 0.60$$

$$T_{13} = (9/12)(9/11) + (0/12)(1/11) + (2/12)(0/11) + (1/12)(1/11) = 0.62$$

The T index is given by the weighted average of $T = \sum_{i=1}^N \sum_{j=1}^N \beta_{ij} T_{ij}$ where β_{ij} are defined by options 1 and

2. Under options 1a2a (companies weighted equally and overall international focus), $\beta_{ij} = n_i n_j / n^2$ for all values of i and j so T equals the sum of 64 terms as follows (first three terms shown only):

$$T = (12 \times 12 / 124^2) \times 0.60 + (8 \times 12 / 124^2) \times 0.75 + (12 \times 11 / 124^2) \times 0.62 + \dots = 0.27$$

for country i (see column 1 of Table 2) and $n = 124$ is the total sample size. The first three terms of this sum are provided beneath Table 2. The resulting value of $T = 0.27$ (options 1a2a3a4a) results from the large spread of companies using different methods and implies there is only a 27% chance of two randomly selected companies having accounts that are comparable. Under options 1b2a3a4a the weights β_{ij} all equal $1/64$ and $T = 0.31$ is a simple average of the 64 T_{ij} in Table 2.

If we consider the accounts of non-disclosing companies to be not comparable with accounts of all other companies (option 4c instead of 4a) then $T = 0.087$. In this case $M = 5$ since non-disclosure is included as an accounting method and the high level of non-disclosure results in a lower value of the T index. Note the T_{ij} will be lower than those in Table 2 due to the non-comparability of non-disclosure and the β_{ij} will differ since the sample sizes n_i (and hence n) will be higher.

Many international accounting studies prefer to examine the comparability of companies between

different countries (option 2c), a property of the I index and between-country C index. If, as with the I index, we give each country equal weight (option 1b), β_{ij} equals $1/56$ when $i \neq j$ and $\beta_{ii} = 0$. Then $T = 0.27$ (option 1b2c3a4a) is a simple average of the off-diagonal entries in Table 2. If companies are weighted equally (option 1a2c3a4a) we obtain the between-country C index value of $T = 0.24$. If non-disclosing companies are considered non-comparable to all other companies (option 4c) these values for the T index are 0.079 and 0.076 respectively.

The choice of α_{kl} and β_{ij} in any application requires careful consideration and justification. These examples are for illustration only and we do not claim any of the above choices are optimal. Indeed, calculating and reporting values of the T index under different assumptions or options, as above, is recommended. The flexibility of the T index provides a unified framework for comparison of indices, encourages careful thought of the appropriate index for a particular problem, enhances investigations into the sensitivity of conclusions to the choice of index, and opens up

possibilities of new indices tailor made for a specific problem.

3. Statistical inference for the T index

The T index given by Equation (1) is typically calculated using sample data consisting of proportions p_{ki} equal to the proportion of companies in the sample of companies from country i that use accounting method k . When considering statistical inference for the T index it is important to distinguish between this index based on a sample of companies and the corresponding index based on the population of all companies from these countries. We refer to the latter as the population T index, denoted T_p . It is given by

$$T_p = \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} \pi_{ki} \pi_{lj} \quad (2)$$

where

π_{ki} equals the proportion of companies using accounting method k out of all the companies in the population of companies from country i , and

π_{lj} equals the corresponding proportion for method l and country j .

In practice, it is not possible to include all companies in all countries in our sample and hence the sample T index is only an estimate of the population index T_p . Here we consider the statistical properties of the sample T index and in particular how accurate it is as an estimate of the corresponding index in the population.

3.1. The bias of the T index

The bias of an estimate is defined as the difference between the expected value of the sample estimate and the quantity being estimated, and hence equals zero only if the mean of the sampling distribution equals the quantity being estimated.

The bias of the T index is derived in the Appendix to equal the summation in Equation (3) (boxed below).

$$\text{bias}(T) = \sum_{i=1}^N \sum_{k=1}^M \alpha_{kk} \beta_{ii} \pi_{ki} / n_i - \sum_{i=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ii} \pi_{ki} \pi_{li} / n_i. \quad (3)$$

Although this bias appears a complicated expression that can be positive, negative or zero, there are a few important characteristics that we now discuss.

The bias of T will equal zero if the β_{ii} all equal zero, and in particular for any T index under option (2c) utilising a between-country focus. This is an

important special case because international studies often focus on comparisons between countries. With this international focus, we now know that the value of the T index calculated from a random sample will, on average, equal the value of the T index calculated from the entire population. In particular, this result proves the between country C index of Archer et al. (1995) and the two-country I index of van der Tas (1988) are both unbiased.

Further insights into the bias of the T index can be obtained by writing Equation (3) as

$$\text{bias}(T) = \sum_{i=1}^N \frac{\beta_{ii}}{n_i} (D_i - T_i). \quad (4)$$

where

$$D_i = \sum_{k=1}^M \alpha_{kk} \pi_{ki}$$

and

$$T_i = \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \pi_{ki} \pi_{li}.$$

In many applications of the T index an accounting method will be considered completely comparable with itself (so the α_{kk} will all equal 1) except where one accounting method represents non-disclosure in which case this α_{kk} may be zero. In this case, D_i equals the proportion of companies in the population of country i that disclose their accounting method. When all companies disclose their accounting method, D_i will typically equal 1. Although uncommon in the past literature (Astami et al. (2006) is an exception) α_{kk} can be between 0 and 1 due to partial disclosure, as discussed in the Introduction.

The T_i measure national comparability, the level of comparability for companies from country i , and are based on the population of all companies from country i . For example, if α_{kl} equals 1 when $k = l$ and equals 0 when $k \neq l$, then T_i equals the value of the Herfindahl H index applied to all companies from country i .

From Equation (4) several observations can be made concerning the bias of the T index. First, the bias is rarely negative because it is unlikely T_i will be greater than D_i for any country. If $\alpha_{kl} \leq \alpha_{kk}$ for all values of k and l , which is plausible in practice because it states that an accounting method k is at

least as comparable with itself than with any other accounting method, then $T_i \leq D_i$ and so from Equation (4) the bias is not negative.²

Second, since D_i and T_i are both between 0 and 1, their difference must be at most 1 in magnitude. Hence the magnitude of the bias can not be greater

than $\sum_{i=1}^N \beta_{ii}/n_i$. In practice this is a useful upper

bound because it can be calculated prior to data collection since it only depends on the sample size and the international focus to be used for the T index. This implies that the bias will be negligible in large sample sizes.

In summary, the bias will be zero for a between country focus and small if the within country

weighting given by $\sum_{i=1}^N \beta_{ii}$ is small or if the sample

sizes for the countries are all large. For most plausible indices and practical data, the bias will be zero or negligible.

3.2. The standard error for the T index

Formulae to calculate the standard error of the T index are provided in the Appendix. Since the formulae are complicated and not particularly intuitive they are presented in a format suitable for implementation rather than to provide intuitive insights. Examples in the following sections will provide insights into the magnitude of the standard error in different situations.

Instead, Table 3 provides formulae for the variance of the special cases of the T index corresponding to simple H , I , and between-country and within-country C indices. The overall C index gives values slightly different to the H index and T index (option 1a2a3a4a) due to differences between sampling with or without replacement, but these differences are negligible unless sample sizes are very small. Similarly, the within-country C index will give slightly different values to the T index under options 1a2b3a4a unless sample sizes are very small. The other indices in Table 3 give exactly the same value as the T index with the options specified.

We illustrate the use of the formula for the two-country I index between the UK and Belgium ($I = 0.17$, $SE = 0.05$, see Table 2). From Table 1, and after ignoring companies not disclosing their accounting method, we have for the UK ($i = 4$), p_{k4} equal to 7/12, 0, 2/12, and 3/12 ($n_4 = 12$) for accounting methods $k = 1$ to 4 respectively, while

for Belgium ($i = 5$) the corresponding proportions p_{k5} equal 2/19, 6/19, 8/19, and 3/19 ($n_5 = 19$). Using these as estimates for the π_{ki} we obtain the values for $\theta_{kl(ij)}$ provided in Table 4, and summing these values gives a variance of 0.00248. The standard error of 0.05 reported in Table 2 is the square-root of this variance.

The formula for the variance of the between-country C index with more than two countries requires a table of $\theta_{kl(ij)}$, as well as a corresponding table of $\phi_{kl(ij)}$, for each pair of countries i and j . The $\phi_{kl(ij)}$ terms account for correlations between two-country I indices that have a country in common, such as the I index between countries 1 and 2 and the I index between countries 1 and 3.

The formulae for the bias and variance of the within-country C index and between-country C index in Table 3 are valid for any choice of the β_{ii}

and β_{ij} respectively. The values $\beta_{ii} = n_i^2 / \sum_i n_i^2$

and $\beta_{ij} = n_i n_j / \sum_i \sum_{j \neq i} n_i n_j$ are specified in the

formulae for the indices only because these correspond to option 1a (companies weighted equally) used by C indices. International studies that prefer, for example, to weight countries equally (option 1b) can use the formulae for bias and variance in Table 3 by specifying $\beta_{ii} = 1/N$ for the within index and $\beta_{ij} = 1/(N(N-1))$ for the between-country index.

4. The nine measurement practices of Herrmann and Thomas (1995)

Herrmann and Thomas (1995) examined the level of comparability in Belgium, Denmark, France, Germany, Ireland, the Netherlands, Portugal and the UK using data from the 1992–1993 annual reports of 217 companies. They used a modification of the I index by substituting values of 0.01 and 0.99 when the proportion of companies within a country using a particular method were 0 and 1 respectively. They argued this modification was necessary because ‘the I index is sensitive to zero proportions’ and that this ‘potential sensitivity increases as the number of countries surveyed increases’ (Herrmann and Thomas, 1995: 256). Taplin (2004) discussed problems with the I index for more than two countries and with this ad hoc adjustment. Table 1 reproduces the data for the measurement practice of inventory costing. Data for all nine measurement practices is available in Herrmann and Thomas (1995).

Table 5 contains the I and T index values for the data on the nine measurement practices in Herrmann and Thomas (1995). These T index

² A proof of this result is available from the author upon request.

Table 3

The formulae, bias and variance of the simple H, I and C indices that are special cases of the T index (with specified options). Standard errors equal the square-root of the variances.

	H index for one country ⁵ (1a2a3a4a)	Within-country C index (1a2b3a4a) ^{6,7}	I index with only two countries <i>i</i> and <i>j</i> (1a2c3a4a) ⁸	Between-country C index with more than 2 countries (1a2c3a4a) ⁵
Index formula	$H_i = \sum_k p_{ki}^2$	$C_w = \sum_i \beta_{ii} H_i$ where $\beta_{ii} = n_i^2 / \sum_i n_i^2$	$I_{ij} = \sum_{k=1}^M p_{ki} p_{kj}$	$C_b = \sum_i \sum_{j \neq i} \beta_{ij} \sum_k p_{ki} p_{kj}$ where $\beta_{ij} = n_i n_j / \sum_i \sum_{j \neq i} n_i n_j$
Bias	$(1 - H_i) / n_i$	$\sum_i \beta_{ii} (1 - H_i) / n_i$	0	0
Variance	$\sigma_{H_i}^2$	$\sum_i \beta_{ii}^2 \sigma_{H_i}^2$	$\sum_k \sum_l \theta_{kl(ij)}$	$2 \sum_i \sum_{j \neq i} \beta_{ij} \sum_k \sum_l (\beta_{ij} \theta_{kl(ij)} - \phi_{kl(ij)})$

k, l are dummy indicators for possible accounting methods and take values 1 to *M*

i, j, J are dummy indicators for possible countries and take values 1 to *N*

\sum_i is a summation over all possible values of *i* from 1 to *N*

$\sum_{j \neq i}$ is a summation over all possible values of *j* from 1 to *N* except *i*

n_i is the number of sampled companies from country *i*.

p_{ki} is the proportion of companies from country *i* using method *k*.

$\sigma_{H_i}^2 = \sum_k a_{k(i)} + \sum_k \sum_{l \neq k} b_{kl(i)} - \left(1 - (n_i - 1) \sum_k \pi_{ki}^2\right)^2 / n_i^2$ is the variance of the H index for country *i*.

$$a_{k(i)} = (\pi_{ki} + 7(n_i - 1)\pi_{ki}^2 + 6(n_i - 1)(n_i - 2)\pi_{ki}^3 + (n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^4) / n_i^3$$

$$b_{kl(i)} = ((n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^2 \pi_{li}^2 + (n_i - 1)(n_i - 2)\pi_{ki} \pi_{li} (\pi_{ki} + \pi_{li}) + (n_i - 1)\pi_{ki} \pi_{li}) / n_i^3$$

$$\theta_{kl(ij)} = (1 - n_i - n_j) \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj} / (n_i n_j) \text{ when } k \neq l, \text{ and}$$

$$\theta_{kk(ij)} = ((n_i - 1)\pi_{ki}^2 + \pi_{ki}) ((n_j - 1)\pi_{kj}^2 + \pi_{kj}) / (n_i n_j) - \pi_{ki}^2 \pi_{kj}^2$$

$$\phi_{kl(ij)} = \pi_{ki} \pi_{kj} \sum_{J \neq i, j} (\pi_{li} \pi_{lJ} \beta_{iJ} / n_i + \pi_{lj} \pi_{lJ} \beta_{jJ} / n_j) \text{ when } k \neq l, \text{ and}$$

$$\phi_{kk(ij)} = \pi_{ki} \pi_{kj} \sum_{J \neq i, j} (\pi_{kJ} (\pi_{ki} - 1) \beta_{iJ} / n_i + \pi_{kJ} (\pi_{kj} - 1) \beta_{jJ} / n_j)$$

where the summations over *J* are for all possible values of from 1 to *N* except *i* and *j*.

⁵ The *H* index and overall *C* index are slightly different due to differences between sampling with or without replacement, but these differences are negligible unless sample sizes are very small. We present results for a single country here since this is how the *H* and *C* indices are typically used. If a simple random sample from several countries is taken then these formulae should be used for the bias and variance of the *T* index under options 1a2a3a4a. If a stratified random sample is taken, where simple random samples of a pre-specified size are independently taken from each country, the general formula for the bias and variance of the *T* index should be used.

⁶ The *T* (1a2b3a4a) and within-country *C* indices are slightly different due to differences between sampling with or without replacement, but these differences are negligible unless sample sizes are very small.

⁷ These formulae for the bias and variance of the within-country *C* index and the between-country *C* index hold for other choices of weightings β_{ij} . For example, if countries are weighted equally (option 1b) rather than companies weighted equally (1a) assumed by the *C* indices, then $\beta_{ii} = 1/N$ for the within index and $\beta_{ij} = 1/(N(N-1))$ for the between-country index. The provided formulae for the bias and variance of these indices still hold with these weighting of companies/countries.

⁸ This equals the between-country *C* index since there are two countries.

Table 4

Values of $\theta_{kl(34)}$ used to compute the standard error for the two-country *I* index (or between-country *C* index) between the UK and Belgium for inventory costing in the Herrmann and Thomas (1995) data after removing non-disclosing companies.

<i>k</i>	<i>l</i>			
	1	2	3	4
1	0.002012	0.000000	-0.000243	-0.000593
2	0.000000	0.000000	0.000000	0.000000
3	-0.000243	0.000000	0.002557	-0.000678
4	-0.000593	0.000000	-0.000678	0.000936

The sum of these 16 values gives the variance of the *I* index equal to 0.00248. The standard error of 0.05 reported in Table 2 is the square-root of 0.00248.

Values of $\theta_{kl(34)}$ in this table are calculated using the formula for $\theta_{kl(ij)}$ beneath Table 3, with $i = 4$ (the UK) and $j = 5$ (Belgium) and the proportions estimated from the sample data in Table 1 as follows: p_{k4} equal to 7/12, 0, 2/12, and 3/12 ($n_4 = 12$) and p_{k5} equal 2/19, 6/19, 8/19, and 3/19 ($n_5 = 19$) for $k = 1$ to 4 respectively.

values were calculated using options 1b2c3a4a, so as with the *I* index countries are weighted equally, comparisons are between different countries only, multiple accounting policies are not allowed and companies not disclosing their method are removed from the sample. Thus for measurement practice 6, $T = 0.27$ equals the simple average of the off-diagonal entries in Table 2. Total sample sizes after removing non-disclosing companies and the standard errors and 95% confidence intervals for the *T* indices are also presented.

From Table 5 we see that the *I* index and *T* index values are generally close, but differ by more than 0.10 for measurement practices 1, 3 and 4. The data for all of these contain zero proportions and hence are influenced by the arbitrary values of 0.01 and 0.99 substituted by Herrmann and Thomas (1995). For measurement practices 1 and 4 there are sufficient zero proportions in the data for the unmodified *I* index to equal 0. The *I* index in these circumstances is unstable, depending on whether the particular sample has proportions of zero or not and on the value of the arbitrary values of 0.01 and 0.99 substituted.

The standard errors for the *T* index are generally small and indicate that the values of the *T* index calculated from this sample are accurate estimates. This is illustrated in Figure 2 where ± 2 standard error bars (representing 95% confidence intervals for the population index values) are presented graphically. This provides statistically significant evidence that the level of comparability for measurement practice 6 (Inventory costing) is lower than for any of the other eight practices since the 95% confidence intervals are far from overlapping. The evidence for measurement practice 7 (Foreign

currency translation of assets and liabilities) having the highest level of comparability is much weaker. Although in the sample data the index value of 0.87 for practice 7 is the highest, its confidence interval from 0.81 to 0.92 overlaps considerably with the confidence interval from 0.69 to 0.90 for practice 9 (Treatment of translation differences).

From Table 5 and Figure 2 we see that measurement practice 9 (Treatment of translation differences) has a substantially larger standard error of 0.053 compared to the other practices. This is partially explained by the small sample size resulting from the high level of non-disclosure for this practice. Table 5 reveals, however, other measurement practices such as 4 (Research and development) with both a smaller sample size and standard error.

The reason for the high standard error of 0.053 for practice 9 is because 15 of the 20 sampled companies from Portugal did not disclose their accounting method, resulting in an effective sample size of only 5 for Portugal. The higher standard error results from the fact that any comparisons between Portugal and another country cannot be made with statistical confidence. If companies had been weighted equally (option 1a under the *T* index), then the standard error is reduced from 0.053 to 0.033, and similar to the standard errors for most of the other practices. Although comparisons with a Portuguese company are prone to statistical inaccuracy, these comparisons are given little weight under option 1a because there is a small sample of companies from Portugal.

We do not suggest that the lower standard error under option 1a means that preference should be given to option 1a rather than option 1b when using

Table 5
Total sample sizes *n* for disclosing companies (summed over all countries), *I* indices and *T* (options 1b2c3a4a) indices (with standard errors and 95% confidence intervals) for the Herrmann and Thomas (1995) data.

Measurement practice	<i>n</i>	<i>I</i>	<i>T</i>	<i>SE</i>	95%	<i>CI</i>
1. Fixed asset valuation	217	0.29	0.47	0.006	0.46	0.48
2. Depreciation	217	0.62	0.68	0.023	0.64	0.72
3. Goodwill	187	0.25	0.45	0.005	0.44	0.46
4. Research and development	109	0.41	0.58	0.026	0.53	0.63
5. Inventory valuation	217	0.79	0.71	0.032	0.65	0.77
6. Inventory costing	124	0.23	0.27	0.017	0.24	0.30
7. Foreign currency translation of assets and liabilities	188	0.90	0.87	0.028	0.81	0.92
8. Foreign currency translation of revenues and expenses	184	0.64	0.60	0.032	0.54	0.67
9. Treatment of translation differences	179	0.85	0.79	0.053	0.69	0.90

the *T* index. As described in Taplin (2004), the choice of options under the unified framework of the *T* index should be tailored to the specific research question being addressed. Rather, the example in the previous paragraph highlights the fact that it is more important to have higher sample sizes in *each* country when equal weighting is given to each country than when companies are given equal weighting. The general principle is as follows: to obtain a more accurate value for the *T* index (that is, a lower standard error), the sample size should be higher for countries that are given higher weight in the *T* index. For option 1b this suggests approximately equal sample sizes in each country.

5. A comparison between fairness and legalistic countries

Herrmann and Thomas (1995) also compared the level of comparability between the fairness countries (Denmark, Ireland, the Netherlands and the UK) to the level of comparability between legalistic countries (Belgium, France, Germany and Portugal). They concluded on p. 264 that 'The bicountry and four-country *I* indices reveal that fairness oriented countries are more harmonised than legalistic ones'. They made no attempt to examine the statistical significance of these differences. Taplin (2003) reported this statistical comparison, however only after using the *H* index instead of the *I* index. In Taplin's (2004) unified framework of the *T* index this required companies to be weighted equally (option 1a) instead of countries being weighted equally (option 1b) and an overall international perspective (option 2a) rather than a between-country perspective (option 2c).

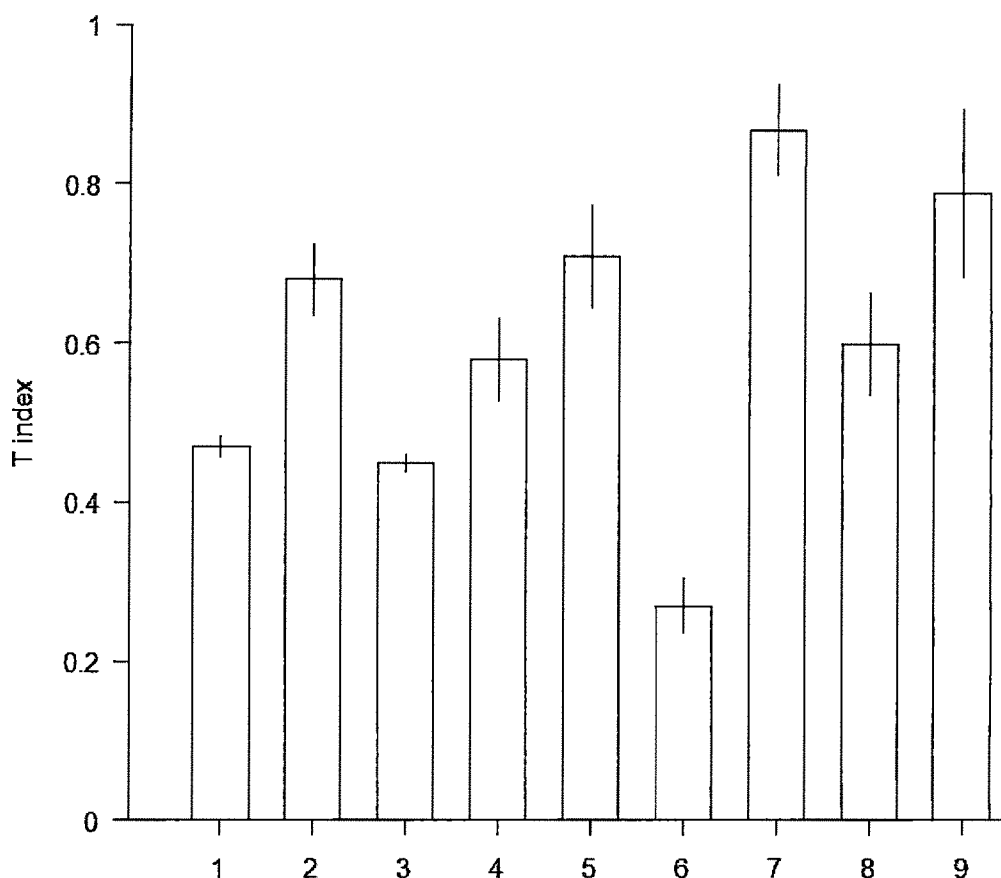
Here we present the statistical comparison between the fairness and legalistic countries using options 1(b) and 2(c) of the *T* index. For comparison purposes with the results in Taplin (2003), we

begin by retaining the options 3(a) and 4(a) so, as with the *H* Index in Taplin (2003), non-disclosing companies are removed prior to analysis.

Table 6 contains the values for the *T* index for the fairness and legalistic countries together with their standard errors. These are the four-country indices that are most comparable with the *I* index used by Herrmann and Thomas (1995), but, avoids problems associated with the various forms of the *I* index for more than two countries. Table 6 also contains the difference in *T* index values (Fairness countries *T* index minus legalistic countries *T* index), the standard error of this difference, and standardised score *Z* and *P*-value when testing the null hypothesis of no difference in *T* index values. Note that the standard error for the difference in *T* index values equals the square-root of the sum of the squares of the two standard errors. For example, for the first measurement practice (Fixed asset valuation), the standard error for the difference in *T* index values equals $\sqrt{0.017^2 + 0.011^2} = 0.020$.

As reported by Herrmann and Thomas (1995) the level of comparability is higher in the fairness countries for seven of the nine measurement practices. Measurement practice 3 (Goodwill) is one of the exceptions, but Table 6 shows that this difference of -0.06 is not statistically significant (*P* = 0.396). Thus this data is consistent with no difference in the level of comparability in fairness and legalistic countries, and indeed is consistent with either fairness or legalistic countries having the higher level of comparability.

The other exception is measurement practice 8 (Foreign currency translation of revenues and expenses). In this case, not only is the level of comparability in the fairness countries smaller than the level in the legalistic countries (*T* = 0.48 compared to *T* = 0.78), but this difference is highly significant statistically (*P* = 0.000). Although the overall trend

Figure 2**T index (with ± 2 standard error bars) for the Herrmann and Thomas (1995) data**

Measurement practice (see Table 2 for descriptions)

reported by Herrmann and Thomas (1995) that fairness countries are more comparable is valid, this highly significant trend in the opposite direction for foreign currency translation of revenues and expenses may deserve further examination.

Furthermore, for two of the seven measurement practices where the level of comparability is higher in the fairness countries compared to the legalistic countries, the difference in the level of comparability is not statistically significant ($P = 0.174$ and $P = 0.272$ for practices 1 and 5). Thus there is statistically significant evidence that comparability is higher for fairness rather than legalistic countries in only five of the nine measurement practices. The addition of this statistical rigour adds clarity to our interpretation of index values.

6. The effect of non-disclosure on the standard error

Pierce and Weetman (2002) warned that interpretation of index values was problematic when the

non-disclosure level was high. Unlike the *I* index employed by Herrmann and Thomas (1995) and previous *H* and *C* indices, their adjusted *C* index does not remove all non-disclosing companies. Their analysis was, however, restricted by the lack of statistical inference techniques presented in this paper. We therefore repeat our comparison of the fairness and legalistic countries assuming companies not disclosing their accounting method are not comparable to all other companies.³ This can be achieved by using option (4c) instead of (4a) under the *T* index framework. Results appear in Table 7 using the same format as in Table 6. For measurement practices 1, 2 and 5 all companies in the sample data disclosed their accounting method. In these cases results under option (4c) are identical to

³For brevity we do not present results assuming non-disclosing companies are comparable with all other companies or, as Pierce and Weetman (2002) suggest, determining which companies are applicable and which are not-applicable non-disclosures.

Table 6
A statistical comparison of the T indices (option 1b2c3a4a) for the fairness and legalistic countries and the Herrmann and Thomas (1995) data.

<i>Measurement practice</i>	<i>Fairness countries</i>		<i>Legalistic countries</i>		<i>Difference</i>			
	<i>T</i>	<i>SE</i>	<i>T</i>	<i>SE</i>	<i>T</i>	<i>SE</i>	<i>Z</i>	<i>P-value</i>
1. Fixed asset valuation	0.48	0.017	0.45	0.011	0.03	0.020	1.36	0.174
2. Depreciation	0.95	0.030	0.47	0.022	0.48	0.037	12.85	0.000***
3. Goodwill	0.79	0.052	0.84	0.043	-0.06	0.068	-0.85	0.396
4. Research and development	0.83	0.064	0.38	0.021	0.45	0.068	6.60	0.000***
5. Inventory valuation	0.73	0.048	0.65	0.053	0.08	0.071	1.10	0.272
6. Inventory costing	0.63	0.084	0.25	0.024	0.38	0.088	4.34	0.000***
7. Foreign currency translation of assets and liabilities	0.98	0.018	0.76	0.050	0.22	0.053	4.21	0.000***
8. Foreign currency translation of revenues and expenses	0.48	0.025	0.78	0.072	-0.30	0.076	-3.90	0.000***
9. Treatment of translation differences	0.92	0.042	0.67	0.091	0.25	0.100	2.48	0.013*

*, ** and *** denotes statistical significance at the 0.05, 0.01 and 0.001 level respectively (two-tailed tests).

results under option (4a) and so are not repeated in Table 7.

As expected, the change from option (4a) to (4c), whereby non-disclosing companies are considered non-comparable with all other companies, results in a lower level of comparability when non-disclosure exists. All *T* index values in Table 7 are smaller than the corresponding value in Table 6. Also as expected, these decreases are greatest where the level of non-disclosure is highest. For example, measurement practices 4 and 6 for the fairness countries have both the highest non-disclosure rate (with respectively 108 and 93 non-disclosing companies out of 217) and the highest reduction in *T* index values, from 0.83 and 0.63 (Table 6) to 0.25 and 0.09 (Table 7) respectively.

Smaller sample sizes are typically associated with larger standard errors. However, removing non-disclosing companies does not necessarily increase standard errors. Exactly half of the 12 standard errors for *T* indices in Table 7 (with non-disclosing companies included) are smaller than the corresponding standard errors in Table 6 (where non-disclosing companies are removed). For measurement practice 7 in the fairness countries, the standard error triples from 0.018 to 0.055 when non-disclosing companies are included. This is because the very high value of 0.98 for the *T* index under option (4a) is close to the boundary of 1 and this constrains the size of its standard error. This is

discussed in Section 8 where we consider the shape of the sampling distribution of the *T* index.

The treatment of non-disclosure can have a large effect on the comparison between the level of comparability within the fairness and legalistic countries. Tables 3 and 4 both indicate a significant difference in the level of comparability within fairness and legalistic countries for measurement practice 6 ($P = 0.000$ and $P = 0.023$ respectively). However, the sign of the difference is not the same: under option (4a) where non-disclosing companies are removed the fairness countries have the higher level of comparability but under option (4c) where non-disclosing companies are considered non-comparable the legalistic countries have the higher level of comparability. In this case conclusions concerning which group of countries is more comparable depends significantly on the treatment of non-disclosure. In contrast, we note that while the difference in *T* index values in Tables 3 and 4 for measurement practice 3 have different signs, neither is significantly different to zero ($P = 0.396$ and $P = 0.314$ respectively). No ambiguity in conclusions arises for measurement practice 3 because there is insignificant evidence of any difference in the level of comparability for fairness compared to legalistic countries. Although *p*-values in Tables 3 and 4 for the other measurement practices do change, conclusions remain the same if they are based on the conventional signifi-

Table 7

A statistical comparison of the *T* indices (option 1b2c3a4c) for the fairness and legalistic countries and the Herrmann and Thomas (1995) data.

Measurement practice	Fairness countries		Legalistic countries		Difference			
	<i>T</i>	<i>SE</i>	<i>T</i>	<i>SE</i>	<i>T</i>	<i>SE</i>	<i>Z</i>	<i>P-value</i>
1. Fixed asset valuation								
2. Depreciation								
3. Goodwill	0.61	0.057	0.52	0.062	0.08	0.084	1.01	0.314
4. Research and development	0.25	0.046	0.06	0.015	0.19	0.048	3.85	0.000***
5. Inventory valuation								
6. Inventory costing	0.09	0.025	0.16	0.022	-0.07	0.033	-2.27	0.023*
7. Foreign currency translation of assets and liabilities	0.74	0.055	0.49	0.061	0.24	0.082	2.98	0.003**
8. Foreign currency translation of revenues and expenses	0.35	0.033	0.52	0.057	-0.18	0.066	-2.66	0.008**
9. Treatment of translation differences	0.65	0.057	0.40	0.049	0.25	0.075	3.31	0.001***

*, ** and *** denotes statistical significance at the 0.05, 0.01 and 0.001 level respectively (two-tailed tests).

cance level of 5% and on the direction of the difference.

7. The special case of the two-country *I* index

As shown in Section 2 the two-country *I* index, or the equivalent between country *C* index for two countries, is important because it is a basic ingredient in the calculation of the *T* index. We investigate the statistical properties of this special case of the *T* index in this section because some studies will compare only two countries. This will also provide additional insights into the accuracy with which *T* index values can be estimated (and later in Section 8 the extent to which the sampling distribution deviates from normality) when sample sizes are small. Table 2 contains the standard errors (in parentheses) for each of the two-country *I* indices for measurement practice 6 (Inventory costing) and Section 3.2 illustrates the calculation of these standard errors.

Fairness countries (listed first in Table 2) have higher values for the two-country *I* index (ranging from 0.49 to 0.82) than legalistic countries (ranging from 0.10 to 0.34) or between a fairness and legalistic country (ranging from 0.00 to 0.26). They also have higher standard errors (ranging from 0.11 to 0.14 compared to 0.05 to 0.08 and 0.00 to 0.08 respectively), reflecting the lower level of accuracy with which we have estimated the degree of comparability between fairness countries. This is

largely due to the smaller sample sizes for the fairness countries, which result in part from the higher level of non-disclosure in these countries. The lowest level of comparability between two fairness countries is 0.49 (*SE* = 0.11) between Denmark and the UK. This is not significantly higher than the comparability between some pairs of legalistic countries. For example, the level of comparability between France and Portugal is 0.34 (*SE* = 0.05).

Finally, we note for measurement practice 6 in Table 5 the standard error of 0.017 is considerably lower than 0.071, the mean of the off-diagonal standard errors in Table 2. Recall (see Section 2) the corresponding value of *T* = 0.27 in Table 5 is the mean of the off-diagonal index values in Table 2. The lower standard error in Table 5 is a direct result of the *T* index using data from all eight countries while each of the indices in Table 2 uses data from only two countries: indices based on larger samples are expected to have similar values, on average, but with smaller standard errors.

This smaller standard error for an index based on several countries compared to the standard error for an index based on two countries has implications when designing studies. The recommendation in Taplin (2004) to examine the two-country *I* indices whenever calculating a *T* index with several countries is still relevant, however if research questions relate to comparisons between pairs of

countries as well as between all countries then larger sample sizes may be required. We discuss the issue of required samples sizes in Section 9.

8. The sampling distribution for the T index

This paper has presented formulae for the standard error of the T index and applied them to several examples. The formulae are exact under independent random sampling of companies from countries without any additional assumptions, but the confidence intervals and p-values derived from these standard errors also assume that the sampling distribution of the T index is normal. For example, 95% confidence intervals were constructed with the estimated T index plus or minus 1.96 standard errors and Z scores were converted into p-values using standard normal tables. In practice, normality is often a good approximation for this sampling distribution, especially in large sample sizes n_i or when there is a large number of countries, due to Central Limit Theorem results. First, when the sample size n_i is large the corresponding p_{ki} for that country will be approximately normally distributed. Second, since the T index is a weighted average of random variables, when this average is over a larger number of terms the sampling distribution is likely to be closer to normal.

Central Limit Theorem results, however, provide limits as sample sizes tend to infinity and are therefore of theoretical interest. Instead, we provide some examples of the sampling distribution for the T index so the accuracy of the normal distribution can be evaluated in more realistic finite samples. We do so by providing histograms of one million T index values generated from one million simulated samples from known populations. Not only do these simulations allow a comparison with the normal distribution, the interval from the 0.025 percentile to the 0.975 percentile of these distributions provides an exact 95% interval to compare with the approximate plus or minus 1.96 standard error approximation based on normality. Since the approximation is extremely accurate in most examples covered in this paper, we concentrate on cases where the approximation is weakest. Although two decimal places are generally sufficient when using a confidence interval to assess the accuracy of an estimate, in this section we quote intervals to three decimal places to allow closer scrutiny of the accuracy of this normality approximation.

A value of $T = 0.98$ (and standard error of 0.018) was reported in Table 6 for fairness countries and measurement practice 7. In this case, it is clear that the sampling distribution can not be normal because

the upper bound for a legitimate T index value is 1, only just over one standard error from the estimate. Furthermore, a 95% confidence interval calculated with the plus or minus 1.96 standard error rule will be non-sensible in this case since it will include values beyond the theoretical boundaries of 0 and 1. Of the 54 T index values presented in Tables 2, 3 and 4 there are three occasions where these approximate confidence intervals for the T index using the plus or minus 1.96 standard errors rule result in intervals extending past either 0 or 1. These are for fairness countries with measurement practices 7, 2, and 9 (where T index values are 1.0, 1.8 and 1.9 standard errors from the nearest boundary). We also include measurement practice 4 for the fairness countries since its T index value is 2.6 standard errors from the boundary of 1. No other T index is within 3 standard errors of a boundary of 0 or 1.

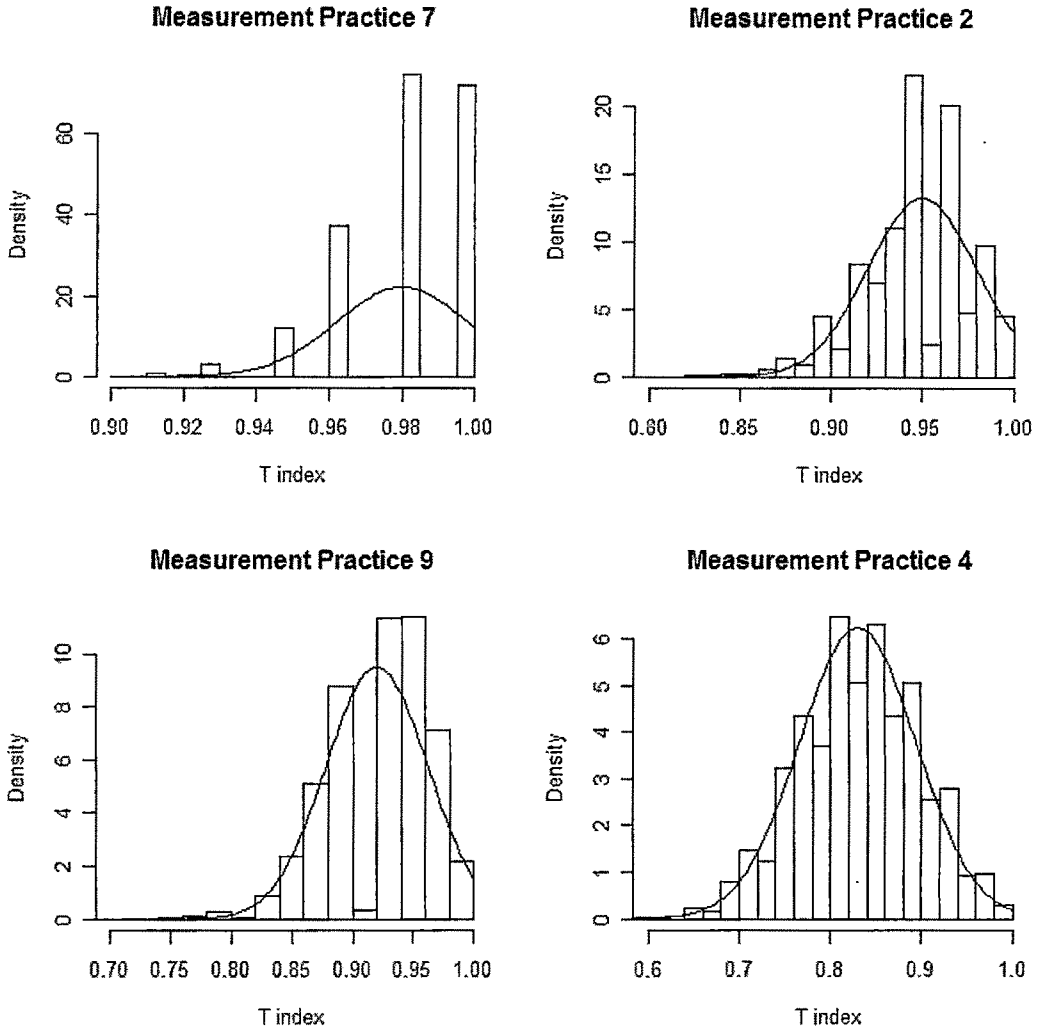
Figure 3 presents the estimated sampling distribution from the results of simulating one million samples from each of these populations. That is, these histograms describe the probability of obtaining different values for the T index when randomly sampling companies. Each distribution has the normal distribution superimposed that uses the theoretical standard error given in Section 3.2. Note that in each of these cases the bias is zero since the indices use a between country international perspective (option 2c).

Measurement practice 7 (top left of Figure 3) shows a sampling distribution that is clearly not normal, as expected since the mean of the distribution is only 1.0 standard errors from the boundary of 1. It is highly skewed and discrete in nature with only a few index values possible. Indeed, this sampling distribution only contains the possible values of 1 and multiples of 0.018 less than 1 (1, 0.982, 0.964, ...) corresponding to none, one, two, ... sampled companies using the current/historical method rather than the historical method. Only one of the 99 companies from the fairness countries in this data used the current/historical method.

Despite this clear non-normality for measurement practice 7, the approximate 95% interval calculated using the plus or minus 1.96 standard errors rule is accurate. In this case, the approximation gives the interval from 0.948 to 1.017. The 95% interval calculated using the 0.025 and 0.975 percentiles from the million simulations yields an interval from 0.946 to 1.

Measurement practices 2, 9 and 4 show progressively lower degrees of non-normality with the means of the sampling distributions being 1.8, 1.9 and 2.6 standard errors from a boundary. Their

Figure 3
Sampling distributions based on 1,000,000 samples for the T index corresponding to measurement practices 7, 2, 9 and 4 in Table 6 for fairness countries. Normal approximations based on theoretical standard errors are also shown.



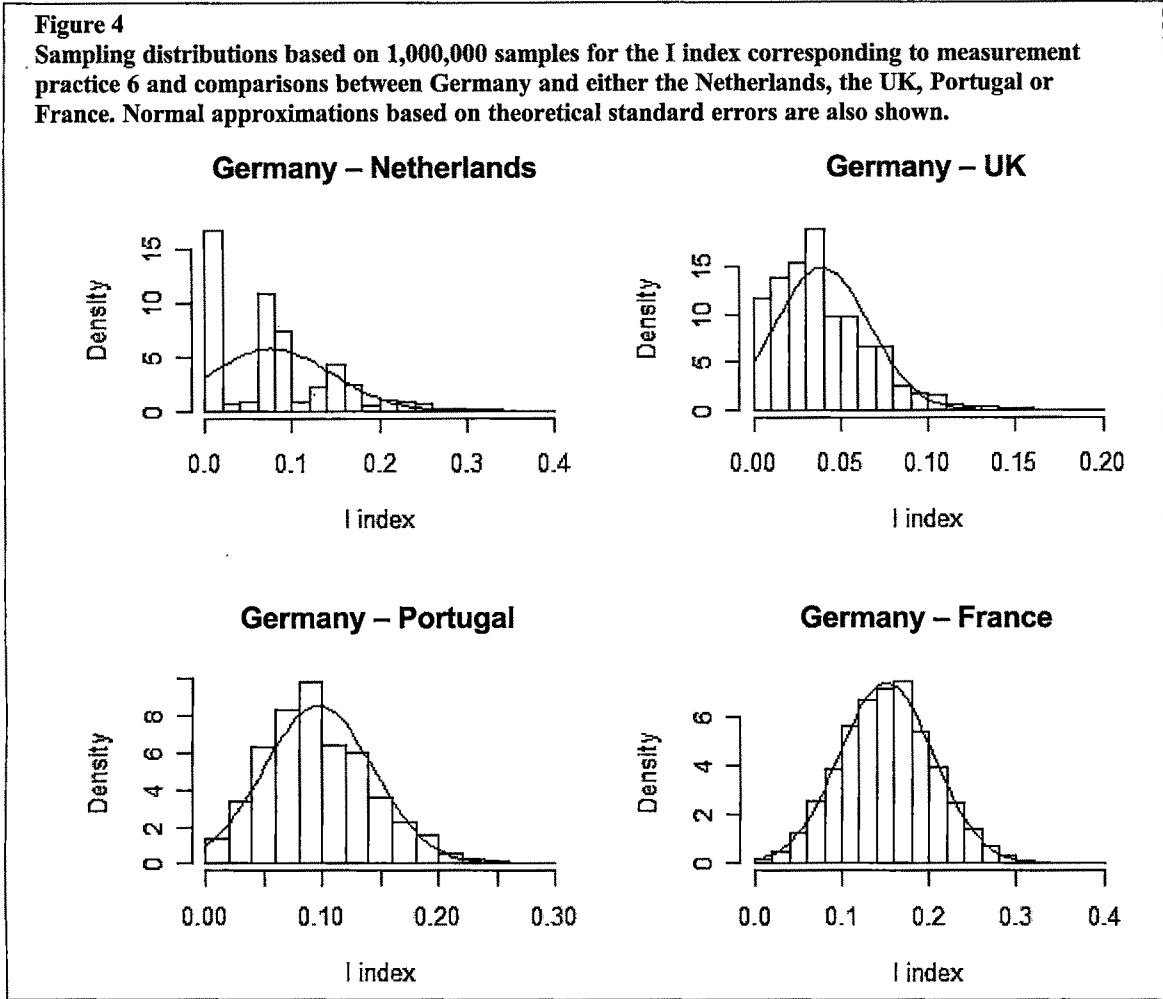
approximate intervals are 0.889 to 1.005, 0.839 to 1.004 and 0.705 to 0.957 respectively. The intervals based on the percentiles are 0.882 to 1, 0.823 to 1 and 0.694 to 0.962 respectively. In each case the approximate intervals are accurate within 0.02 and usually accurate within 0.01. Hence the approximations are extremely accurate, especially compared to the inaccuracy in the estimated T index values summarised by the length of the intervals.

All of the other 50 T index values presented in Tables 2, 3 and 4 are more than three standard errors from the boundaries of 0 and 1 and the approximate 95% confidence intervals formed by taking the estimated T index value plus or minus 1.96 standard errors are very accurate. Practical experience suggests that this approximation is extremely accurate when the T index is more than three standard errors

from both boundaries of 0 and 1. Furthermore, it is likely to be accurate to within 0.01 if the T index is more than two standard errors from both boundaries of 0 and 1, and often accurate even when this is not the case.

Hence we conclude that statistical inference performed as if the sampling distribution of the T index is normal is likely to be sufficiently accurate for most purposes unless possibly when the estimated index value is within two standard errors of a boundary. This is likely to occur when either there is a very high or low level of comparability resulting in a T index value that is close to either 0 or 1, or the standard error is very high reflecting an inaccurate estimate of the population T_p index value due to samples sizes that are too small.

Normality is less likely to be a valid approxima-



tion for the two-country *I* indices for Inventory costing in Section 7. This is because these *T* indices are calculated from a sum involving fewer terms and the standard errors tend to be higher. Figure 4 displays the sampling distribution for some of the two-country *I* indices in Table 2. The Netherlands, the UK, Portugal and France were chosen for illustration purposes because the index values between these countries and Germany are close to a boundary of 0 or 1 (respectively 1.1, 1.5, 2.1 and 2.8 standard errors away).

From Figure 4 it is apparent that normality is a poor approximation when the value for the *T* index is close to a boundary of 0 or 1 (compared to the size of the standard error). For the Netherlands and the UK, approximate 95% confidence intervals using the value of the *T* index plus or minus 1.96 standard errors result in intervals including negative values (−0.059 to 0.212 and −0.013 to 0.092 respectively). The intervals from the 0.025 and 0.975 percentiles of the simulated distribution are 0.000 to 0.244 and 0.000 to 0.105 respectively. For Portugal, the sampling distribution is slightly skewed but close

to normal. The approximate 95% confidence interval of 0.005 to 0.189 is close to the interval of 0.019 to 0.199 from the simulation. In this case the value for the *I* index is just over two standard errors from the closest boundary. Finally, for the *I* index comparing Germany and France the *I* index is 2.8 standard errors from the boundary and the sampling distribution is very close to normal. The approximate 95% confidence interval 0.046 to 0.256 and interval of 0.048 to 0.259 from the simulation are very close.

Once again these approximations are accurate, especially if the presence of intervals extending beyond the boundaries of 0 and 1 are ignored and the accuracy of the approximate intervals are compared to the length of the intervals.

9. Sample size determination

The formula for the standard error of the *T* index can be used to determine the necessary sample sizes for each country in order to achieve a given level of precision for the *T* index. We now illustrate this procedure for a simple example.

Table 8
Anticipated proportions π_{ki} for the proportion of companies within country i using accounting method k

Accounting method	Country			
	1	2	3	4
A	0.2	0.1	0.2	0.3
B	0.8	0.4	0.6	0.6
ND	0	0.5	0.2	0.1

Suppose we are planning a study involving four countries and we anticipate three accounting methods, labeled A, B and ND for non-disclosure. First we select the T index we desire for our study. Companies do not provide enough information in their accounts to enable comparability with both a company using method A and another company using method B so multiple accounting policies are not possible (option 3a). Furthermore, we consider non-disclosure to be not comparable (option 4c). We wish to make between-country comparisons (option 2c) and give each country equal weight (option 1b).

Second, we need to anticipate the proportion of companies within each country using each method. These are the population proportions π_{ki} . At first this appears strange in that we need to anticipate the characteristics of the population because if these were known we could calculate the exact value of the population T indices, but this is true of all sample size calculations. Suppose these proportions π_{ki} are given by the values in Table 8. For example, in the first country 20% of companies use method A, 80% use method B and all companies disclose their accounting method.

The value of the T index using options 1b2c3a4c for this population is $T_p = 0.39$. This is the value we are trying to estimate from our samples of companies. Now suppose our sample size is $n_i = 10$ for each of the four countries. Then from the equation for the standard error of the sample T index in Section 3.2 the standard error for the T index is 0.078. Since the value of the index is approximately five standard errors from the nearest boundary we can be confident that the sampling distribution for the T index is very close to normal (simulations confirm this). Hence we can be 95% confident that the value of the T index in our sample will be within $1.96 \times 0.078 = 0.153$ of the population value $T_p = 0.39$. If the level of accuracy ± 0.153 for an estimated value for the T index is insufficient then sample sizes will need to be increased.

Now suppose we wish to test the null hypothesis

that the level of comparability between countries 1 and 2 is equal to the level of comparability between countries 3 and 4. The value of the T index applied to the population of countries 1 and 2 is $T_{p1,2} = 0.34$ and the value when applied to countries 3 and 4 is $T_{p3,4} = 0.42$. The difference in population T index values is $\Delta T_p = T_{p1,2} - T_{p3,4} = -0.08$ and thus the null hypothesis is false. It remains to calculate the probability of rejecting this null hypothesis for a particular sample size.

For sample sizes of $n_i = 10$ for each country, the standard errors for the sample T indices are 0.129 for countries 1 and 2 and 0.111 for countries 3 and 4. Hence the standard error of the difference in sample T index values is $\sqrt{0.129^2 + 0.111^2} = 0.170$. This represents a high level of imprecision in our estimated difference in comparability when the actual difference is only 0.08. Larger sample sizes will be required to have a high chance of rejecting this null hypothesis.

More formally, our test statistic is $Z = \frac{T_{1,2} - T_{3,4}}{SE}$ where $T_{1,2}$ and $T_{3,4}$ are the sample T indices for countries 1 and 2 and for countries 3 and 4 respectively, and SE is the standard error of the difference $T_{1,2} - T_{3,4}$. We reject the null hypothesis at the 5% significance level when $Z < -1.96$ or $Z > 1.96$ (two-sided test) since under the null hypothesis Z has a standard normal distribution. Under the alternative hypothesis where $\Delta T_p = T_{p1,2} - T_{p3,4}$ is non-zero, $\frac{T_{1,2} - T_{3,4} - \Delta T_p}{SE}$ has a standard normal distribution and hence the probability of rejecting the null hypothesis in favour of a two-sided alternative hypothesis is:

$$\text{Power} = P(Z < -1.96) + P(Z > 1.96)$$

which by definition of the test statistic Z ,

$$= P\left(\frac{T_{1,2} - T_{3,4}}{SE} > 1.96\right) + P\left(\frac{T_{1,2} - T_{3,4}}{SE} < -1.96\right)$$

$$= P\left(\frac{T_{1,2} - T_{3,4} - \Delta T_p}{SE} > 1.96 - \frac{\Delta T_p}{SE}\right)$$

$$+ P\left(\frac{T_{1,2} - T_{3,4} - \Delta T_p}{SE} < -1.96 - \frac{\Delta T_p}{SE}\right)$$

and since $\frac{T_{1,2} - T_{3,4} - \Delta T_p}{SE}$ has a standard normal distribution,

$$= 1 - \Phi\left(1.96 - \frac{\Delta T_p}{SE}\right) + \Phi\left(-1.96 - \frac{\Delta T_p}{SE}\right)$$

where $\Phi()$ denotes the cumulative distribution function for the standard normal distribution. For the above example with sample sizes of 10 from

Table 9
Standard errors for the four-country index T (options 1b2c3a4c), the two-country indices $T_{1,2}$ and $T_{3,4}$, the difference $T_{1,2} - T_{3,4}$, and the power of a test for a difference in the two-country indices, for a variety of sample sizes n_i per country.

Sample sizes n_i	Standard error for				Power testing $T_{p1,2} \neq T_{p3,4}$
	T	$T_{1,2}$	$T_{3,4}$	$T_{1,2} - T_{3,4}$	
10	0.078	0.129	0.111	0.170	0.076
20	0.055	0.090	0.076	0.118	0.104
30	0.045	0.073	0.062	0.096	0.133
50	0.035	0.057	0.047	0.074	0.192
100	0.024	0.040	0.033	0.052	0.337
200	0.017	0.028	0.023	0.037	0.588
500	0.011	0.018	0.015	0.023	0.932

each country, $\Delta T_p = -0.08$ and $SE = 0.170$, so $\frac{\Delta T_p}{SE} = -0.47$ and the power is $1 - \Phi(2.43) + \Phi(-1.49) = 0.076$, only marginally higher than the 5% probability of rejecting the null hypothesis if the null hypothesis was true.

While the normality assumption is reasonable in this case (the T index values are expected to be approximately $0.34/0.129 = 2.6$ and $0.42/0.111 = 3.8$ standard errors from the nearest boundary), this calculation is approximate because it ignores any differences between the estimated standard errors from the sample data and the standard errors calculated from the population proportions π_{ki} . These differences will be small in large samples. More importantly, any sample size calculation is always approximate since anticipated characteristics of the population (the π_{ki} in this case) will generally lead to greater inaccuracies in power calculations.

Table 9 summarizes the relationship between sample size and the standard error for the four-country index T , the two-country T indices $T_{1,2}$ and $T_{3,4}$, the difference $T_{1,2} - T_{3,4}$, and the power of a test for a difference in the two-country T indices. In all cases the sample sizes are assumed equal, so the total sample size for the study is four times the value n_i given in Table 9.

The power of the test of the alternative hypothesis that $T_{p1,2} \neq T_{p3,4}$ is low for moderate sample sizes. From Table 9, the number of companies sampled from each country must be at least about 200 (total sample size of 800 companies) before there is at least a 50% chance of obtaining significant evidence for a difference in the level of comparability. It is unlikely that resources will be available for such a large study. From this we conclude that a study aiming to prove that the level of comparability between countries 1 and 2 is different from the level of comparability between countries 3 and 4 is not

worth pursuing because, for sample sizes that are realistic in practice, the probability of achieving this aim is small.

The above is for illustration purposes and should not be taken to mean that all studies involving the T index require large sample sizes. For example, from Table 9 we see that samples of 30 companies from each of the four countries will result an estimated T index that is accurate within 9% (1.96 times the standard error of 0.045). Furthermore, the reason for the low power when testing $T_{p1,2} \neq T_{p3,4}$ was because the calculations assumed the levels of comparability $T_{p1,2}$ and $T_{p3,4}$ are very close, differing by only 0.08. Studies will not generally seek to detect such a small difference and smaller sample sizes will suffice to detect larger differences in comparability. Finally, in Sections 5 and 6 we saw that the sample sizes in the Herrmann and Thomas (1995) data were sufficient to detect some differences between comparability within fairness and legalistic countries.

10. Discussion

The T index is a flexible framework that enables researchers to select or design a particular index from many individual indices to suit their particular research question and the characteristics of their data. This paper enhances the T index by providing formulae for the bias and standard error of the T index and illustrates how the standard error can be used to compute standard statistical quantities such as confidence intervals and p-values for hypothesis tests. These techniques will add substantially to the value of research quantifying the level of comparability with the T index. Indeed, it is argued that every time a T index is reported in the literature a corresponding standard error (or confidence interval) should also be included to inform the reader how accurate the level of comparability has been measured with the sample data available.

As well as providing measures of accuracy of estimated T index values from samples, the methods illustrated in this paper enable the statistical testing of formal hypotheses. Examples of hypotheses include 'the level of comparability for accounting practice A is greater than the level of comparability for accounting practice B' or 'the level of comparability in countries A–C is greater than the level of comparability in countries D–G'. The results of this paper make this possible using any index from within the versatile T index framework.

The research agenda of Nobes (2006) proposed eight hypotheses and several sub-hypotheses worthy of future research in international accounting. From his detailed examination of motives and opportunities he concluded differences in IFRS practice internationally will persevere. 'The implications for users of IFRS financial statements are that international comparability may have increased but that large differences are likely to remain' Nobes (2006: 244). Importantly, the comparability of company accounts is the ultimate issue. While other issues such as compliance with IFRS are important because they can impact on comparability, a high level of compliance with IFRS may be of little consequence to users if this allows a low level of comparability. Similarly, a low level of compliance with IFRS may not be seen as an important issue for users when comparability is high.

Consider the first hypothesis of Nobes (2006: 237) 'International differences in practice exist among IFRS companies due to differences in the version of IFRS being used.' First, this hypothesis demands evidence that differences in practice occur. The T index is appropriate because it can take into account the degree of comparability between different practices (note that different practices can result in comparable, or partially comparable, accounts). If the comparability index is close to 1 then what these differences are due to becomes an immaterial question. Comparability indices should become a standard addition to empirical research on comparability in the same way that other summary statistics such as means and correlations are used to summarise results within a study and to enable comparisons across studies. Index values can, however, be inaccurate, especially if based on small sample sizes. The results in this paper will therefore play an important role in this research agenda by enabling standard errors and confidence intervals to accompany comparability indices.

Second, this paper enables a statistical assessment of whether the level of comparability for one topic is significantly lower than the comparability for another topic. Research effort should concentrate on topics where comparability is shown to be lower. Third, differences in comparability between different groups of countries, such as the comparison between fairness and legalistic countries suggested by Herrmann and Thomas (1995), can test theories concerning the impact of cultural and historical differences between countries.

The suggestion by Nobes (2006) that comparability may increase under IFRS also demands empirical testing. Recent evidence such as Cairns et al. (2009) suggests comparability can also significantly decrease with the adoption of IFRS. Reasons for such changes are important research questions to pursue, but investigating and proposing reasons for changes that can be attributed to random sampling variation is not a productive use of research effort. Hence the results presented in this paper will also be important for research into changes in comparability over time.

Furthermore, this paper has added insights into the characteristics of different indices within the T index framework. For example, it has been shown that the sample T index is unbiased in many cases and has negligible bias in most other practical cases. It has also illustrated how the accuracy of the T index calculated from a sample depends on the options selected for the T index and the sample sizes for each country. For example, if companies are weighted equally (option 1a) then a small sample from one country will have negligible impact on the size of the standard error compared to when countries are weighted equally (option 1b).

Finally, we have illustrated how researchers can, during early development, abandon or modify research that has little chance of achieving its aims. Previously, researchers did not have access to such valuable tools for comparability studies. Researchers can now examine whether their proposed data is likely to answer their proposed research questions prior to data collection, choose research questions and sample sizes that are realistic in advance, and report their findings using the usual statistical techniques. These include p -values to quantify evidence against hypotheses and confidence intervals and standard errors to quantify the precision of estimated levels of comparability.

Appendix

This Appendix contains four sections. The first describes the formulae to calculate the standard error of the T index. The second and third derive the formulae for the bias and variance, and hence standard error, of the T index. The last section derives the formulae for the bias and variance of the simple H , I and C special cases of the T index.

Throughout this Appendix the following notation is adopted.

N is the number of countries.

M is the number of accounting methods.

i, j, I and J are dummy indices for countries, taking integer values from 1 to N .

k, l, K and L are dummy indices for methods, taking integer values from 1 to M .

α_{kl} is the coefficient of comparability between accounting methods k and l .

β_{ij} is the weighting for the comparison between companies in countries i and j .

n_i is the number of companies sampled from country i .

X_{ki} is the number of sampled companies from country i that use method k .

p_{ki} is the proportion of sampled companies from country i that use method k .

π_{ki} is the population proportion of all companies from country i that use method k .

$E(A)$ is the expectation of A .

$Var(A)$ is the variance of A .

$Cov(A, B)$ is the covariance between A and B .

Formulae for the standard error of the T index

In this section we provide expressions for the calculation of the standard error of the T index. The standard error for the T index, σ_T , is the square-root of its variance, σ_T^2 . Here we present formulae for the variance in three steps: first, as an expression involving covariances; second, expressions for these covariances in terms of expectations; and third, expressions for these expectations.

First, the variance of the T index can be expressed as

$$\sigma_T^2 = \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \sum_{I=1}^N \sum_{J=1}^N \sum_{K=1}^M \sum_{L=1}^M \alpha_{kl} \beta_{ij} \alpha_{KL} \beta_{IJ} Cov(p_{ki} p_{lj}, p_{KI} p_{LJ})$$

where Cov denotes the covariance function, i, j, I and J are dummy indices for countries, k, l, K and L are dummy indices for methods and hence, for example, p_{KI} is the proportion of companies in country I using method K . This equation has twice as many summations as are used in the definition of the T index because $Var(\sum_i X_i) = \sum_i \sum_I Cov(X_i, X_I)$ and hence an extra set of dummy indices is

required. Although there is potentially a large number of terms in the above summation for σ_T^2 ($N^4 M^4$ or 2,560,000 terms for the example in Table 1 with $N = 8$ countries and $M = 4$ methods) these terms constitute a few special cases and many of these covariances equal zero.

We now provide expressions for each of the $Cov(p_{ki} p_{lj}, p_{KI} p_{LJ})$ in the above summation in terms of expectations, denoted E , of products of up to four of these proportions. In doing so, we consider five cases depending respectively on whether 0, 1, 2, 3 or 4 of the equalities $i = I$, $i = J$, $j = I$ or $j = J$ hold.

(Case C0) There are four different country indices, so i, j, I and J are all unequal to each other.

$$Cov(p_{ki} p_{lj}, p_{KI} p_{LJ}) = 0.$$

(Case C1) There is exactly one pair of country indices that are equal to each other, so exactly one of the equalities $i = j$, $i = I$, $i = J$, $j = I$, $j = J$, or $I = J$ holds.

$$Cov(p_{ki} p_{li}, p_{KI} p_{LI}) = 0 Cov(p_{ki} p_{lj}, p_{KI} p_{LJ}) = E(p_{ki} p_{KI}) E(p_{lj}) E(p_{LJ}) - E(p_{ki}) E(p_{lj}) E(p_{KI}) E(p_{LJ})$$

$$Cov(p_{ki} p_{lj}, p_{KI} p_{LI}) = E(p_{ki} p_{LI}) E(p_{lj}) E(p_{KI}) - E(p_{ki}) E(p_{lj}) E(p_{KI}) E(p_{LI})$$

$$Cov(p_{ki} p_{lj}, p_{Kj} p_{LJ}) = E(p_{ki}) E(p_{lj} p_{Kj}) E(p_{LJ}) - E(p_{ki}) E(p_{lj}) E(p_{Kj}) E(p_{LJ})$$

Appendix (continued)

$$\text{Cov}(p_{ki}p_{lj}, p_{KI}p_{Lj}) = E(p_{ki})E(p_{lj}p_{Lj})E(p_{KI}) - E(p_{ki})E(p_{lj})E(p_{KI})E(p_{Lj})$$

$$\text{Cov}(p_{ki}p_{lj}, p_{KI}p_{LI}) = 0$$

(Case C2) There are two pairs of equal country indices, so ($i = j$ and $I = J$), ($i = I$ and $j = J$) or ($i = J$ and $j = I$).

$$\text{Cov}(p_{ki}p_{li}, p_{KI}p_{LI}) = 0$$

$$\text{Cov}(p_{ki}p_{lj}, p_{KI}p_{Lj}) = E(p_{ki}p_{KI})E(p_{lj}p_{Lj}) - E(p_{ki})E(p_{lj})E(p_{KI})E(p_{Lj})$$

$$\text{Cov}(p_{ki}p_{lj}, p_{KI}p_{LI}) = E(p_{ki}p_{LI})E(p_{lj}p_{Kj}) - E(p_{ki})E(p_{lj})E(p_{KI})E(p_{LI})$$

(Case C3) Three of the four country indices are equal to each other but the fourth country index is different, so $i = j = I \neq J$, $i = j = J \neq I$, $i = I = J \neq j$ or $j = I = J \neq i$.

$$\text{Cov}(p_{ki}p_{li}, p_{KI}p_{Lj}) = E(p_{ki}p_{li}p_{KI})E(p_{Lj}) - E(p_{ki}p_{li})E(p_{KI})E(p_{Lj})$$

$$\text{Cov}(p_{ki}p_{li}, p_{KI}p_{LI}) = E(p_{ki}p_{li}p_{LI})E(p_{KI}) - E(p_{ki}p_{li})E(p_{KI})E(p_{LI})$$

$$\text{Cov}(p_{ki}p_{lj}, p_{KI}p_{LI}) = E(p_{ki}p_{KI}p_{LI})E(p_{lj}) - E(p_{ki})E(p_{lj})E(p_{KI}p_{LI})$$

$$\text{Cov}(p_{ki}p_{lj}, p_{KI}p_{Lj}) = E(p_{ki})E(p_{lj}p_{Kj}p_{Lj}) - E(p_{ki})E(p_{lj})E(p_{KI}p_{Lj})$$

(Case C4) All four country indices are equal to each other, so $i = j = I = J$.

$$\text{Cov}(p_{ki}p_{li}, p_{KI}p_{LI}) = E(p_{ki}p_{li}p_{KI}p_{LI}) - E(p_{ki}p_{li})E(p_{KI}p_{LI})$$

Finally, we provide expressions for the above expectations depending on whether we evaluate the expectation of one proportion (case E1), or the product of two (case E2), three (case E3) or four (case E4) proportions. It suffices to provide expressions for the above expectations for country i only because each expectation involves proportions for only one country. In practice, the standard error of the T index is usually estimated by substituting sample proportions p_{ki} for the population proportions π_{ki} in the expressions below.⁴

(Case E1) $E(p_{ki}) = \pi_{ki}$.

(Case E2) $E(p_{ki}p_{li})$ has two cases depending on whether the accounting methods k and l are equal.

If $k = l$, $E(p_{ki}^2) = (n_i - 1)\pi_{ki}^2/n_i + \pi_{ki}/n_i$.

If $k \neq l$, $E(p_{ki}p_{li}) = (n_i - 1)\pi_{ki}\pi_{li}/n_i$.

(Case E3) $E(p_{ki}p_{li}p_{Ki})$ has three cases depending on whether k , l and K are all equal, two are equal or none are equal to each other. Without loss of generality we consider the cases $k = l = K$, $k = l \neq K$ and k , l and K are all unequal. Note that this covers all cases since the order of the proportions is irrelevant (for example, $p_{ki}p_{li}p_{Ki} = p_{li}p_{Ki}p_{ki}$).

If $k = l = K$, $E(p_{ki}^3) = (n_i - 1)(n_i - 2)\pi_{ki}^3/n_i^2 + 3(n_i - 1)\pi_{ki}^2/n_i^2 + \pi_{ki}/n_i^2$.

If $k = l \neq K$, $E(p_{ki}^2p_{Ki}) = (n_i - 1)(n_i - 2)\pi_{ki}^2\pi_{Ki}/n_i^2 + (n_i - 1)\pi_{ki}\pi_{Ki}/n_i^2$.

If k , l and K are all unequal, $E(p_{ki}p_{li}p_{Ki}) = (n_i - 1)(n_i - 2)\pi_{ki}\pi_{li}\pi_{Ki}/n_i^2$.

(Case E4) $E(p_{ki}p_{li}p_{Ki}p_{Li})$ has five cases depending on whether k , l , K and L are all equal, three are equal, two are equal and the other two equal each other, two are equal and the other two are different to each other, or all four are unequal. Due to symmetry (the order of the proportions is irrelevant), the following five cases cover all possibilities.

⁴ Recall the important distinction between the proportion in the sample and the proportion in the population. In practice, we only know values in the sample. The formula for the standard error for a sample proportion p is $\sqrt{\pi(1-\pi)/n}$ and this is typically approximated with $\sqrt{p(1-p)/n}$. This approximation is excellent unless sample sizes are very small. We use the same approximation here by replacing π_{ki} with p_{ki} when applying these expressions for the standard error of T to sample data.

Appendix (continued)

If $k = l = K = L$,

$$E(p_{ki}^4) = (n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^4/n_i^3 + 6(n_i - 1)(n_i - 2)\pi_{ki}^3/n_i^3 + 7(n_i - 1)\pi_{ki}^2/n_i^3 + \pi_{ki}/n_i^3.$$

If $k = l = K \neq L$,

$$E(p_{ki}^3 p_{Li}) = (n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^3 \pi_{Li}/n_i^3 + 3(n_i - 1)(n_i - 2)\pi_{ki}^2 \pi_{Li}/n_i^3 + (n_i - 1)\pi_{ki} \pi_{Li}/n_i^3$$

If $k = l$ and $K = L$ with $k \neq K$,

$$E(p_{ki}^2 p_{Ki}^2) = (n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^2 \pi_{Ki}^2/n_i^3 + (n_i - 1)(n_i - 2)\pi_{ki}^2 \pi_{Ki}/n_i^3 + (n_i - 1)(n_i - 2)\pi_{ki} \pi_{Ki}^2/n_i^3 + (n_i - 1)\pi_{ki} \pi_{Ki}/n_i^3.$$

If $k = l$ with $k \neq K$, $k \neq L$ and $K \neq L$,

$$E(p_{ki}^2 p_{Ki} p_{Li}) = (n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^2 \pi_{Ki} \pi_{Li}/n_i^3 + (n_i - 1)(n_i - 2)\pi_{ki} \pi_{Ki} \pi_{Li}/n_i^3.$$

If k, l, K and L are all unequal,

$$E(p_{ki} p_{li} p_{Ki} p_{Li}) = (n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki} \pi_{li} \pi_{Ki} \pi_{Li}/n_i^3.$$

Derivation of the formulae for the bias of the T index

Since the bias is defined as the expected value of the sample T index minus the value of the corresponding population T index we begin by calculating this expectation. The expected value of the T index is given by

$$E(T) = E\left(\sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} p_{ki} p_{lj}\right) = \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} E(p_{ki} p_{lj}) \quad (5)$$

In the appendices we repeatedly use Equation 10 of Johnson and Kotz (1969: 284) for the expectation of functions of multinomial random variables,

$$E\left(X_1^{(r_1)} X_2^{(r_2)} \dots X_R^{(r_R)}\right) = N \left(\sum_{a=1}^R r_a\right) \pi_1^{r_1} \pi_2^{r_2} \dots \pi_R^{r_R} \text{ where } A^{(r)} = A(A-1)(A-2)\dots(A-r+1).$$

For example, $E\left(X_1^{(2)} X_2\right) = N(N-1)(N-2)\pi_1^2 \pi_2$ and

$$E\left(X_1^{(2)} X_2\right) = E(X_1(X_1-1)X_2) = E(X_1^2 X_2) - E(X_1 X_2).$$

Recall here that by definition $p_{ki} = X_{ki}/n_i$ where p_{ki} is the proportion of companies using method k in the sample from country i , X_{ki} is the sampled number of companies in country i using method k , and n_i is the sample size for country i . We therefore calculate $E(X_{ki} X_{lj})$ as the formula for $E(p_{ki} p_{lj})$ will then follow upon division by $n_i n_j$.

There are three cases to consider for $E(p_{ki} p_{lj})$ in Equation (5) depending on whether i and j are equal (same country), and, if they are equal, depending on whether k and l are equal (same accounting method). Here we repeatedly apply Equation 10 of Johnson and Kotz (1969: 284) and the fact that $E(X_{ki} X_{lj}) = E(X_{ki})E(X_{lj})$ when $i \neq j$ because sampling is assumed independent in different countries and the expectation of a product equals the product of the expectations for two independent variables.

For $i = j$:

$$\text{If } k = l, E(X_{ki}^2) = E(X_{ki}(X_{ki}-1)) + E(X_{ki}) = E(X_{ki}^{(2)}) + E(X_{ki}) = n_i(n_i-1)\pi_{ki}^2 + n_i\pi_{ki}.$$

$$\text{If } k \neq l, E(X_{ki} X_{li}) = n_i(n_i-1)\pi_{ki}\pi_{li}.$$

$$\text{For } i \neq j: E(X_{ki} X_{lj}) = E(X_{ki})E(X_{lj}) = n_i\pi_{ki}n_j\pi_{lj}.$$

Since $p_{ik} = X_{ik}/n_i$ it follows that $E(p_{ki} p_{lj}) = E(X_{ki} X_{lj})/(n_i n_j)$. Hence:

$$\text{If } i = j \text{ and } k = l, E(p_{ki}^2) = (n_i-1)\pi_{ki}^2/n_i + \pi_{ki}/n_i = \pi_{ki}^2 - (\pi_{ki}^2 - \pi_{ki})/n_i.$$

$$\text{If } i = j \text{ and } k \neq l, E(p_{ki} p_{li}) = (n_i-1)\pi_{ki}\pi_{li}/n_i = \pi_{ki}\pi_{li} - \pi_{ki}\pi_{li}/n_i.$$

$$\text{For } i \neq j: E(p_{ki} p_{lj}) = \pi_{ki}\pi_{lj}.$$

Appendix (continued)

From these three equations we see that $E(p_{ki}p_{lj})$ always has a term equal to $\pi_{ki}\pi_{lj}$ but has additional terms when $i = j$. Hence substituting the values for these expectations into Equation (5) yields

$$\begin{aligned} E(T) &= \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} E(p_{ki}p_{lj}) \\ &= \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} \pi_{ki} \pi_{lj} - \sum_{i=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ii} \pi_{ki} \pi_{li} / n_i + \sum_{i=1}^N \sum_{k=1}^M \alpha_{kk} \beta_{ii} \pi_{ki} / n_i \end{aligned}$$

Since the first term in this expression equals the population index T_p , it follows that the bias of the T index is given, as required, by

$$\sum_{i=1}^N \sum_{k=1}^M \alpha_{kk} \beta_{ii} \pi_{ki} / n_i - \sum_{i=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ii} \pi_{ki} \pi_{li} / n_i.$$

Derivation of the formulae for the standard error of the T index

Here we derive the formulae for the variance of the T index, σ_T^2 , provided in an earlier section of this Appendix. This derivation involves three steps corresponding to the three steps in the presentation of the formulae: first, verifying the formula for σ_T^2 in terms of covariances; second, deriving the formulae for these covariances in terms of expectations (cases C0 to C4); and thirdly, deriving the expressions for these expectations (cases E1 to E4).

First, note that:

$$\begin{aligned} \sigma_T^2 &= \text{Var}(T) = \text{Var} \left(\sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} p_{ki} p_{lj} \right) \\ &= \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \sum_{I=1}^N \sum_{J=1}^N \sum_{K=1}^M \sum_{L=1}^M \alpha_{kl} \beta_{ij} \alpha_{KL} \beta_{IJ} \text{Cov}(p_{ki} p_{lj}, p_{KI} p_{LJ}) \end{aligned}$$

where Var and Cov denote variance and covariance functions respectively and we have repeatedly applied the formula $\text{Var} \left(\sum_{i=1}^N X_i \right) = \sum_{i=1}^N \sum_{I=1}^N \text{Cov}(X_i, X_I)$.

Therefore it suffices to derive the expressions for $\text{Cov}(p_{ki} p_{lj}, p_{KI} p_{LJ})$ for all possible values of i, j, I and J between 1 and N and all possible values of k, l, K and L between 1 and M . Cases C0 to C4 consider the possible values for i, j, I and J and then cases E1 to E4 consider possible cases for k, l, K and L .

Second, we derive the expressions for each of the covariances in cases C0 to C4. Each of these five cases results from whether 0, 1, 2, 3 or 4 of the equalities $i = I, i = J, j = I$ or $j = J$ hold. Below we repeatedly use the definition of covariance, $\text{Cov}(A, B) = E(AB) - E(A)E(B)$, and two fundamental rules that apply when A and B are independent: $\text{Cov}(A, B) = 0$ and $E(AB) = E(A)E(B)$. These rules apply when the terms A and B do not share information from the same country(s) because we assume that the samples of companies from the different countries are selected independently.

In particular $\text{Cov}(p_{ki} p_{lj}, p_{KI} p_{LJ}) = E(p_{ki} p_{lj} p_{KI} p_{LJ}) - E(p_{ki} p_{lj}) E(p_{KI} p_{LJ})$. This expression can be simplified further when the country indices i, j, I and J are not all equal because we assume independent sampling of companies from different countries. For example, $E(p_{ki} p_{lj})$ equals $E(p_{ki})E(p_{lj})$ when $i \neq j$ and $E(p_{ki} p_{li} p_{KI} p_{LI})$ equals $E(p_{ki} p_{li} p_{KI})E(p_{LI})$ when $i \neq I$.

Appendix (continued)

(Case C0) There are four different country indices, so i, j, I and J are all unequal to each other.

If countries i and j are each different to countries I and J then the two terms $p_{ki}p_{lj}$ and $p_{KI}p_{LJ}$ are independent because we assume different countries are sampled independently. Hence $Cov(p_{ki}p_{lj}, p_{KI}p_{LJ}) = 0$.

(Case C1) There is exactly one pair of country indices that are equal to each other, so exactly one of the equalities $i = j, i = I, i = J, j = I, j = J$, or $I = J$ holds.

First, for the possibilities where either $i = j$ or $I = J$ the terms $p_{ki}p_{lj}$ and $p_{KI}p_{LJ}$ do not share information from the same country and hence are independent. Therefore

$$Cov(p_{ki}p_{li}, p_{KI}p_{LJ}) \text{ and } Cov(p_{ki}p_{lj}, p_{KI}p_{LI}) \text{ both equal } 0.$$

We consider the case where $i = I$. The other possibilities are derived in a similar way.

$$\begin{aligned} Cov(p_{ki}p_{lj}, p_{KI}p_{LJ}) &= E(p_{ki}p_{lj}p_{KI}p_{LJ}) - E(p_{ki}p_{lj})E(p_{KI}p_{LJ}) \\ &= E(p_{ki}p_{KI})E(p_{lj})E(p_{LJ}) - E(p_{ki})E(p_{lj})E(p_{KI})E(p_{LJ}) \end{aligned}$$

(Case C2) There are two pairs of equal country indices, so $(i = j \text{ and } I = J)$, $(i = I \text{ and } j = J)$ or $(i = J \text{ and } j = I)$.

When $i = j$ and $I = J$ we have $Cov(p_{ki}p_{li}, p_{KI}p_{LJ}) = 0$ because in this case the two terms $p_{ki}p_{lj}$ and $p_{KI}p_{LJ}$ are independent (if the country $i = j$ and the country $I = J$ were the same then we would have case C4 considered below).

We consider the case where $i = I$ and $j = J$. The case where $i = J$ and $j = I$ is derived in a similar way.

$$\begin{aligned} Cov(p_{ki}p_{lj}, p_{KI}p_{LJ}) &= E(p_{ki}p_{lj}p_{KI}p_{LJ}) - E(p_{ki}p_{lj})E(p_{KI}p_{LJ}) \\ &= E(p_{ki}p_{KI})E(p_{lj}p_{LJ}) - E(p_{ki})E(p_{lj})E(p_{KI})E(p_{LJ}) \end{aligned}$$

(Case C3) Three of the four country indices are equal to each other but the fourth country index is different, so $i = j = I \neq J$, $i = j = J \neq I$, $i = I = J \neq j$ or $j = I = J \neq i$.

We consider the case where $i = j = I \neq J$. The other possibilities are derived in a similar way.

$$\begin{aligned} Cov(p_{ki}p_{li}, p_{KI}p_{LJ}) &= E(p_{ki}p_{li}p_{KI}p_{LJ}) - E(p_{ki}p_{li})E(p_{KI}p_{LJ}) \\ &= E(p_{ki}p_{li}p_{KI})E(p_{LJ}) - E(p_{ki}p_{li})E(p_{KI})E(p_{LJ}) \end{aligned}$$

(Case C4) All four country indices are equal to each other, so $i = j = I = J$.

$$Cov(p_{ki}p_{li}, p_{KI}p_{Li}) = E(p_{ki}p_{li}p_{KI}p_{Li}) - E(p_{ki}p_{li})E(p_{KI}p_{Li})$$

Third, we derive the expressions for the expectations specified in cases E1, E2, E3 and E4. These are the expressions for expectations depending on whether 1, 2, 3 or 4 proportions appear in the expectation. Since $p_{ki} = X_{ki}/n_i$ and Equation 10 of Johnson and Kotz (1969: 284) for the expectation of functions of multinomial random variables is defined in terms of the number of companies X_{ki} we first determine the expectation of one, or a product of up to four, of the X_{ki} . The required results for the proportions p_{ki} are then obtained in each case by dividing by the appropriate n_i since, for example, $E(p_{ki}) = E(X_{ki}/n_i) = E(X_{ki})/n_i$.

$$(Case E1) E(X_{ki}) = n_i\pi_{ki}$$

Dividing by n_i yields, as required, $E(p_{ki}) = \pi_{ki}$.

(Case E2) $E(p_{ki}p_{li})$ has two cases depending on whether the accounting methods k and l are equal.

$$\text{If } k = l, E(X_{ki}^2) = E(X_{ki}(X_{ki} - 1)) + E(X_{ki}) = E(X_{ki}^{(2)}) + E(X_{ki}) = n_i(n_i - 1)\pi_{ki}^2 + n_i\pi_{ki}$$

$$\text{If } k \neq l, E(X_{ki}X_{li}) = n_i(n_i - 1)\pi_{ki}\pi_{li}$$

Appendix (continued)

Dividing each of these expressions by n_i^2 yields, as required,

$$\text{If } k = l, E(p_{ki}^2) = (n_i - 1)\pi_{ki}^2/n_i + \pi_{ki}/n_i.$$

$$\text{If } k \neq l, E(p_{ki}p_{li}) = (n_i - 1)\pi_{ki}\pi_{li}/n_i$$

(Case E3) $E(p_{ki}p_{li}p_{Ki})$ has three cases depending on whether k, l and K are all equal, two are equal or none are equal to each other.

If $k = l = K$,

$$\begin{aligned} E(X_{ki}^3) &= E(X_{ki}(X_{ki} - 1)(X_{ki} - 2)) + 3E(X_{ki}(X_{ki} - 1)) + E(X_{ki}) \\ &= E(X_{ki}^{(3)}) + 3E(X_{ki}^{(2)}) + E(X_{ki}) = n_i(n_i - 1)(n_i - 2)\pi_{ki}^3 + 3n_i(n_i - 1)\pi_{ki}^2 + n_i\pi_{ki} \end{aligned}$$

If $k = l \neq K$

$$\begin{aligned} E(X_{ki}^2 X_{Ki}) &= E(X_{ki}(X_{ki} - 1)X_{Ki}) + E(X_{ki}X_{Ki}) = E(X_{ki}^{(2)} X_{Ki}) + E(X_{ki}X_{Ki}) \\ &= n_i(n_i - 1)(n_i - 2)\pi_{ki}^2\pi_{Ki} + n_i(n_i - 1)\pi_{ki}\pi_{Ki} \end{aligned}$$

If k, l and K are all unequal

$$E(X_{ki}X_{li}X_{Ki}) = n_i(n_i - 1)(n_i - 2)\pi_{ki}\pi_{li}\pi_{Ki}$$

Dividing each of these expressions by n_i^3 yields the required results.

(Case E4) $E(p_{ki}p_{li}p_{Ki}p_{Li})$ has five cases depending on whether k, l, K and L are all equal, three are equal, two are equal and the other two equal each other, two are equal and the other two are different to each other, or all four are unequal.

If $k = l = K = L$,

$$\begin{aligned} E(X_{ki}^4) &= E(X_{ki}(X_{ki} - 1)(X_{ki} - 2)(X_{ki} - 3)) + 6E(X_{ki}(X_{ki} - 1)(X_{ki} - 2)) + 7E(X_{ki}(X_{ki} - 1)) \\ &\quad + E(X_{ki}) = E(X_{ki}^{(4)}) + 3E(X_{ki}^{(3)}) + 3E(X_{ki}^{(2)}) + E(X_{ki}) \\ &= n_i(n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^4 + 6n_i(n_i - 1)(n_i - 2)\pi_{ki}^3 + 7n_i(n_i - 1)\pi_{ki}^2 + n_i\pi_{ki} \end{aligned}$$

If $k = l = K \neq L$,

$$\begin{aligned} E(X_{ki}^3 X_{Li}) &= E(X_{ki}(X_{ki} - 1)(X_{ki} - 2)X_{Li}) + 3E(X_{ki}(X_{ki} - 1)X_{Li}) + E(X_{ki}X_{Li}) \\ &= E(X_{ki}^{(3)} X_{Li}) + 3E(X_{ki}^{(2)} X_{Li}) + E(X_{ki}X_{Li}) \\ &= n_i(n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^3\pi_{Li} + 3n_i(n_i - 1)(n_i - 2)\pi_{ki}^2\pi_{Li} + n_i(n_i - 1)\pi_{ki}\pi_{Li} \end{aligned}$$

If $k = l$ and $K = L$ with $k \neq K$,

$$\begin{aligned} E(X_{ki}^2 X_{Ki}^2) &= E(X_{ki}(X_{ki} - 1)X_{Ki}(X_{Ki} - 1)) + E(X_{ki}(X_{ki} - 1)X_{Ki}) + E(X_{ki}X_{Ki}(X_{Ki} - 1)) \\ &\quad - E(X_{ki}X_{Ki}) = E(X_{ki}^{(2)} X_{Ki}^{(2)}) + E(X_{ki}^{(2)} X_{Ki}) + E(X_{ki}X_{Ki}^{(2)}) + E(X_{ki}X_{Ki}) \\ &= n_i(n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^2\pi_{Ki}^2 + n_i(n_i - 1)(n_i - 2)\pi_{ki}^2\pi_{Ki} \\ &\quad + n_i(n_i - 1)(n_i - 2)\pi_{ki}\pi_{Ki}^2 + n_i(n_i - 1)\pi_{ki}\pi_{Ki} \end{aligned}$$

If $k = l$ with $k \neq K, k \neq L$ and $K \neq L$,

$$\begin{aligned} E(X_{ki}^2 X_{Ki} X_{Li}) &= E(X_{ki}(X_{ki} - 1)X_{Ki}X_{Li}) + E(X_{ki}X_{Ki}X_{Li}) = E(X_{ki}^{(2)} X_{Ki}X_{Li}) + E(X_{ki}X_{Ki}X_{Li}) \\ &= n_i(n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}^2\pi_{Ki}\pi_{Li} + n_i(n_i - 1)(n_i - 2)\pi_{ki}\pi_{Ki}\pi_{Li} \end{aligned}$$

If k, l, K and L are all unequal,

$$E(X_{ki}X_{li}X_{Ki}X_{Li}) = n_i(n_i - 1)(n_i - 2)(n_i - 3)\pi_{ki}\pi_{li}\pi_{Ki}\pi_{Li}$$

Dividing these expressions by n_i^4 yields the required results.

Appendix (continued)**Derivation of bias and variance of the H, I and C special cases of the T index**

Here we derive the formulae for the bias and variance of the simple indices in Table 3. The bias and variance for the H index (options 1a2a3a4a) when there is one country are derived in Taplin (2003).

For the within-country index (options 1a2b3a4a) $C_w = \sum_i \beta_{ii} H_i$, where H_i is the H index applied to country i . Hence the bias is a weighted sum of the bias for the H_i and the variance

$Var(C_w) = \sum_i \beta_{ii}^2 Var(H_i)$, as required, because the samples from the different countries are taken independently.

For the two-country I index (options 1a2c3a4a) for countries i and j we have

$$I_{ij} = \sum_k p_{ki} p_{kj} \text{ so } E(I_{ij}) = \sum_k \pi_{ki} \pi_{kj} \text{ and } E(I_{ij})^2 = \sum_k \sum_l \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj}.$$

$$E(I_{ij}^2) = E\left(\sum_k \sum_l p_{ki} p_{kj} p_{li} p_{lj}\right) = \sum_k \sum_l E(p_{ki} p_{kj} p_{li} p_{lj}) = \sum_k \sum_l E(p_{ki} p_{li}) E(p_{kj} p_{lj}).$$

Hence

$$Var(I_{ij}) = E(I_{ij}^2) - E(I_{ij})^2 = \sum_k \sum_l (E(p_{ki} p_{li}) E(p_{kj} p_{lj}) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj}) = \sum_k \sum_l \theta_{kl(ij)}$$

where $\theta_{kl(ij)}$ is derived for $k \neq l$ from Equation (4.2) of Johnson and Kotz (1969: 51) to be:

$$E(p_{ki} p_{li}) E(p_{kj} p_{lj}) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj} = ((n_i - 1) \pi_{ki} \pi_{li}) ((n_j - 1) \pi_{kj} \pi_{lj}) / (n_i n_j) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj}$$

$$= (1 - n_i - n_j) \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj} / (n_i n_j) \text{ and is derived for } k = l \text{ from Equation (4.41) of Johnson and Kotz (1969: 51) to be:}$$

$$E(p_{ki}^2) E(p_{kj}^2) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj} = ((n_i - 1) \pi_{ki}^2 + \pi_{ki}) ((n_j - 1) \pi_{kj}^2 + \pi_{kj}) / (n_i n_j) - \pi_{ki}^2 \pi_{kj}^2,$$

as required.

For the between-country C index with more than two countries (options 1a2c3a4a) we have

$$C_b = \sum_i \sum_{j \neq i} \beta_{ij} \sum_k p_{ki} p_{kj},$$

$$E(C_b) = \sum_i \sum_{j \neq i} \beta_{ij} \sum_k \pi_{ki} \pi_{kj} \text{ and}$$

$$E(C_b)^2 = \sum_i \sum_{j \neq i} \sum_I \sum_{J \neq I} \beta_{ij} \beta_{IJ} \sum_k \sum_l \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj}.$$

Since

$$Var(C_b) = E(C_b^2) - E(C_b)^2 = \sum_i \sum_{j \neq i} \sum_k \sum_l \sum_I \sum_{J \neq I} \beta_{ij} \beta_{IJ} (E(p_{ki} p_{kj} p_{li} p_{lj}) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj})$$

the desired result follows by considering several special cases depending on whether I or J equal either i or j .

First, if i, j, I , and J are all unequal to each other then by independence of sampling in different countries $\beta_{ij} \beta_{IJ} (E(p_{ki} p_{kj} p_{li} p_{lj}) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj}) = 0$.

Second, if $i = I$ and $j = J$ (or alternatively when $i = J$ and $j = I$),

$$\beta_{ij} \beta_{IJ} (E(p_{ki} p_{kj} p_{li} p_{lj}) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj}) = \beta_{ij}^2 (E(p_{ki} p_{kj} p_{li} p_{lj}) - \pi_{ki} \pi_{kj} \pi_{li} \pi_{lj}) = \beta_{ij}^2 \theta_{kl(ij)}$$

by definition of $\theta_{kl(ij)}$. This explains the term $\theta_{kl(ij)}$ in the result, with the 2 in the formula because there are two combinations of I and J yielding $\theta_{kl(ij)}$.

Appendix (continued)

Third, if $i = I$ but j and J differ from each other and from $i = I$, then

$$\begin{aligned} \sum_{J \neq I} \beta_{ij} \beta_{IJ} (E(p_{ki} p_{kj} p_{IJ} p_{IJ}) - \pi_{ki} \pi_{kj} \pi_{IJ} \pi_{IJ}) &= \sum_{J \neq I} \beta_{ij} \beta_{IJ} (E(p_{ki} p_{II}) E(p_{kj}) E(p_{IJ}) - \pi_{ki} \pi_{kj} \pi_{II} \pi_{IJ}) \\ &= \beta_{ij} \pi_{kj} \pi_{IJ} \sum_{J \neq I} \beta_{IJ} (E(p_{ki} p_{II}) - \pi_{ki} \pi_{II}) \end{aligned}$$

and $E(p_{ki} p_{II}) - \pi_{ki} \pi_{II}$ equals, once again using the formula from Johnson and Kotz (1969), $-\pi_{ki} \pi_{kj} \pi_{II} \pi_{IJ} / n_i$ when $k \neq I$ and equals $\pi_{ki} \pi_{kj} (1 - \pi_{II}) \pi_{IJ} / n_i$ when $k = I$.

Fourth, in a similar derivation if $j = I$ but i and J differ from each other and from $j = I$, then

$$\begin{aligned} \sum_{J \neq I} \beta_{ij} \beta_{IJ} (E(p_{ki} p_{kj} p_{IJ} p_{IJ}) - \pi_{ki} \pi_{kj} \pi_{IJ} \pi_{IJ}) &= \sum_{J \neq I} \beta_{ij} \beta_{IJ} (E(p_{kj} p_{IJ}) E(p_{ki}) E(p_{IJ}) - \pi_{ki} \pi_{kj} \pi_{IJ} \pi_{IJ}) \\ &= \beta_{ij} \pi_{ki} \pi_{IJ} \sum_{J \neq I} \beta_{IJ} (E(p_{kj} p_{IJ}) - \pi_{kj} \pi_{IJ}) \end{aligned}$$

and $E(p_{kj} p_{IJ}) - \pi_{kj} \pi_{IJ}$ equals, once again using the formula from Johnson and Kotz (1969), $-\pi_{ki} \pi_{kj} \pi_{IJ} \pi_{IJ} / n_j$ when $k \neq I$ and equals $\pi_{ki} \pi_{kj} (1 - \pi_{IJ}) \pi_{IJ} / n_j$ when $k = I$.

Adding the third and fourth cases above we obtain

$$\phi_{kl(ij)} = \pi_{ki} \pi_{kj} \sum_{J \neq i,j} (\pi_{II} \pi_{IJ} \beta_{IJ} / n_i + \pi_{IJ} \pi_{IJ} \beta_{IJ} / n_j) \text{ when } k \neq I \text{ and}$$

$$\phi_{kk(ij)} = \pi_{ki} \pi_{kj} \sum_{J \neq i,j} (\pi_{kJ} (\pi_{ki} - 1) \beta_{IJ} / n_i + \pi_{kJ} (\pi_{kj} - 1) \beta_{IJ} / n_j).$$

There are only two further possible combinations for i, j, I , and J . These are when $i = J$ but j and I differ from each other and from $i = J$, which gives the same results as the third case above (except the dummy index I replaces the dummy index J), and when $j = J$ but i and I differ from each other and from $j = J$, which gives the same result as the fourth case. Thus each $\phi_{kl(ij)}$ is required twice, as was the case for the $\theta_{kl(ij)}$, and hence the 2 in the formula for the variance of C_b .

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P.D. Leake Lecture 2009

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Setting UK standards on the concept of control: an analysis of lobbying behaviour

Renata Stenka and Peter Taylor*

Abstract — The present study aims to contribute to an understanding of the complexity of lobbying activities within the accounting standard-setting process in the UK. The paper reports detailed content analysis of submission letters to four related exposure drafts. These preceded two accounting standards that set out the concept of control used to determine the scope of consolidation in the UK, except for reporting under international standards. Regulation on the concept of control provides rich patterns of lobbying behaviour due to its controversial nature and its significance to financial reporting. Our examination is conducted by dividing lobbyists into two categories, corporate and non-corporate, which are hypothesised (and demonstrated) to lobby differently. In order to test the significance of these differences we apply ANOVA techniques and univariate regression analysis. Corporate respondents are found to devote more attention to issues of specific applicability of the concept of control, whereas non-corporate respondents tend to devote more attention to issues of general applicability of this concept. A strong association between the issues raised by corporate respondents and their line of business is revealed. Both categories of lobbyists are found to advance conceptually-based arguments more often than economic consequences-based or combined arguments. However, when economic consequences-based arguments are used, they come exclusively from the corporate category of respondents.

Keywords: consolidated financial statements; accounting standards; lobbying

1. Introduction

The lobbying behaviour of participants in the accounting standard-setting process can be complex (Sutton, 1984; Young, 1994; Georgiou, 2004; Kwok and Sharp, 2005; Masocha and Weetman, 2007). This paper seeks to contribute to understanding of this complexity. It examines empirically lobbying activities on four related exposure drafts (EDs). These drafts preceded two UK accounting standards, namely FRS 2 *Accounting for Subsidiary Undertakings* (ASB, 1992) and FRS 5 *Reporting the Substance of Transactions* (ASB, 1994), that regulate the concept of control used to determine the scope of consolidation in the UK, except for reporting under international accounting standards.¹

We expect that the concept of control would initiate rich patterns of lobbying behaviour due to its controversial nature and its importance to financial

reporting. The scope of consolidation is central to corporate reporting, as significant business activities have increasingly come to be conducted by group structures rather than single entities (Wooldridge, 1981, 1991; Nobes, 1987, 1993; Flower, 2004). As consolidation became the dominant method for preparing group financial statements, so the concept of control determining the scope of consolidation proved to be one of the most challenging conceptual and technical issues for accounting regulators (Nobes, 1987, 1993; Flower, 2004). Regulations determining the composition of the group have the potential to instigate a range of economic consequences through their implications for contracting relationships (e.g. debt covenants) and through other economic mechanisms (Moonitz, 1978; Peasnell and Yaansah, 1988; Mian and Smith, 1990a; Paterson, 1993; Nobes, 1993; Flower, 2004). Likely effects arise due to impacts on accounting numbers reported on the balance sheet and financial relationships existing off-balance sheet (and associated measurements of gearing, risk, and debt capacity) as well as within the income statement (with associated impacts on measured performance and financial ratios of efficiency and profitability) (Peasnell and Yaansah, 1988; Paterson, 1993; Flower, 2004). It is not surprising therefore that

*Renata Stenka is at the School of Economic and Management Studies at Keele University and Peter Taylor is at the School of Management at the University of Liverpool and is also affiliated to Manchester Business School at the University of Manchester.

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Correspondence should be addressed to: Dr Renata Stenka, School of Management and Economic Studies, Keele University, Chancellor's Building, Keele, Staffordshire, ST5 5BG. Tel: +44(0)1782 733431. E-mail: r.i.stenka@mngt.keele.ac.uk

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¹ From 1 January 2005 UK listed companies became subject to International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) with regard to their consolidated financial statements. Appropriate international standards superseded FRS 2 and FRS 5.

the concept of control as a determinant of the scope of consolidation has been at the centre of much controversy in the evolution of the UK generally accepted accounting principles (GAAP) (Bircher, 1988; Nobes, 1987, 1993; Rutherford, 2007: 258–264). The public and regulatory debate, with its practical and theoretical disputes, has been widely reported, for example by Nobes (1987, 1990, 1993), Ebling (1989), Pimm (1990), and Rutherford (2007: 258–264). A discussion of the UK setting at the time the EDs were released is presented in the regulatory background section of the paper. Controversy on the control concept continues within the international regulatory arena (Ketzel, 2003; Flower, 2004; Camfferman and Zeff, 2006; Hoogendoorn, 2006). At the time of writing, the IASB had two projects in train that related to this concept.²

Analysis of the four EDs that led to FRS 2 and FRS 5 is conducted by dividing respondents to the exposure drafts into two broad categories, corporate and non-corporate, in order to reveal differences in the pattern of their lobbying behaviour. This division is based on the proposition that corporate and non-corporate lobbyists demonstrate different modes of rationality with regard to accounting issues and therefore will lobby differently. Detailed discussion of the lobbyists' taxonomy is included in the hypotheses development section of the paper. The following research questions are addressed by this study.

1. Do the issues³ addressed by corporate lobbyists in relation to proposals to regulate the concept of control differ in nature from those addressed by non-corporate lobbyists?
2. Do the arguments used by corporate lobbyists in relation to proposals to regulate the concept of control differ from those used by non-corporate lobbyists?

The literature on lobbying is both varied and extensive and includes a number of different approaches and perspectives. There is a widespread recognition that lobbying in the form of submission letters provides respondents with a means of influence and persuasion (Sutton, 1984; Booth and Cocks, 1990; Young, 1994, 2003; MacDonald and

Richardson, 2004). Comment letters submitted in response to exposure drafts or discussion papers on proposed accounting standards frequently exhibit complexity and richness in their content and a number of researchers have conducted comprehensive analyses of them (e.g. Hope and Briggs, 1982; Hope and Gray, 1982; Nobes, 1992; Tutticci et al., 1994; Weetman et al., 1996; Jupe, 2000; Weetman, 2001; Hill et al., 2002). The present paper seeks to complement these studies. A contribution of the paper lies in its focus on systematic differences in lobbying behaviour between different categories of respondents. We report detailed comparative analysis of the lobbying behaviour of corporate and non-corporate lobbyists that are hypothesised (and demonstrated) to lobby differently. Thus, the study's premise is that it is important to understand the differences in the pattern of lobbying activities between different categories of respondents. Our approach builds on other research whose focus, in contrast, has been on single groups of respondents, usually corporate lobbyists (Ndubizu et al., 1993; Larson, 1997; Ang et al., 2000; Hill et al., 2002). Reviewing the literature on lobbying, one can observe that the majority of existing empirical research either examines political interplay in the regulatory domain and standard-setters' level of responsiveness to constituents' suggestions (Hope and Gray, 1982; Pong and Whittington, 1996; Jupe, 2000; Weetman, 2001; Kwok and Sharp, 2005) or investigates motivation and characteristics of the parties involved in lobbying (Watts and Zimmerman, 1978; McArthur, 1988; Larson, 1997; Ang et al. 2000; Georgiou, 2005).⁴ There are a number of studies that do examine lobbying behaviour of different groups of respondents but cross-respondent group analysis is not the main focus of those authors' investigations (e.g. Hope and Briggs, 1982; Hope and Gray, 1982; Nobes, 1992; Jupe, 2000; Larson and Brown, 2001).

In addition, we note that much of the existing literature examines single EDs (e.g. Tutticci et al., 1994; Jupe, 2000) or groups of unrelated EDs (e.g. McArthur, 1988; Kenny and Larson, 1995; Georgiou, 2004, 2005).⁵ Thus, a novelty of the

² These are: phase D of *Conceptual Framework Project: Reporting Entity*, which deals with control criteria conceptually, and *Consolidation Project* that aims to refine and apply these criteria in the accounting standard context.

³ Our interpretation of terms such as 'issue' and 'argument' is presented in the sections on hypotheses development and data and methodology below. Briefly, an 'argument' is any line of reasoning, criticism, or comment, whilst an 'issue' is any distinct matter of relevance to an ED or matter contained in an ED which is referred to by a respondent.

⁴ One study that undertakes a comprehensive analysis of the strategies employed by different groups of respondents is that of Tutticci et al. (1994). The paper analyses the length of comments, the strength of stated positions, the nature of arguments offered, and finally the number of issues commented on by different groups of respondents.

⁵ There are few empirical studies that are exceptions to this conclusion and which base their analysis on the selection of proposals that together address the same issue. Exceptions are the studies of international standard-setting by Guenther and Hussein (1995) and Larson and Brown (2001), and the studies of national standard-setting by for example Hope and Briggs

present paper is that it analyses a set of proposals that together address the same issue thereby allowing the opportunity for richer insights into lobbying behaviour.

The remainder of the paper is organised as follows. Section 2 presents an overview of prior literature on accounting standard-setting, while Section 3 describes the political and regulatory background relevant to the exposure drafts analysed. Section 4 discusses the theoretical framework and hypotheses, and Section 5 describes the data and methodology utilised to test these hypotheses. Section 6 presents the results. The final section provides conclusions.

2. Prior research

Accounting standard-setting, like every rule-making process, must be viewed, at least partly, as a political activity. This point has considerable support in both theoretical and empirical accounting literatures that acknowledge the far reaching economic and social consequences of accounting standards (Watts and Zimmerman, 1978; Taylor and Turley, 1986; Mines et al., 1997; Zeff, 2002; Carter and Lynch, 2003; Masocha and Weetman, 2007; Rutherford, 2007). Lobbying activities are an integral part of this political process and are defined as efforts by individuals and organisations to promote, influence or obstruct proposed standards (Watts and Zimmerman, 1978; Weetman et al., 1996; Georgiou, 2004, 2005; Broadbent and Laughlin, 2005; Durocher et al., 2007). The research we consider in this section relates primarily but not exclusively to the UK, the US and Australia, together with work on international accounting standards. Each of these settings represents a different institutional context, with varying political interactions. Differences in regulatory background may affect the applicability of research findings to other contexts but while acknowledging this, we stress that the empirical research reported by this study focuses mainly on submission letters, an element of the due process of accounting standard-setting that is common across all the regulatory contexts cited in the paper. We trust that this commonality will assist in moderating the impact on the analysis and results discussed in the paper of differences in institutional settings and cultural backgrounds of lobbyists and regulators.

Lobbying activities are difficult to investigate due to the indeterminacy of their timing and because

many lobbying efforts are not directly observable (Young, 1994; Weetman, 2001; Broadbent and Laughlin, 2005). Lobbying can occur before accounting issues are admitted to the formal agendas of regulators and may occur before the due process of standard-setting even starts. The accounting standard-setting agenda can be manipulated so that controversial issues do not pass a test of appropriateness and so are not allowed onto the agenda, staying as a covert conflict. Furthermore, potentially controversial issues may be kept out of the politics of accounting regulation altogether, representing latent conflict (Sutton, 1984; Hussein and Ketz, 1991; Young, 1994; Weetman, 2001; Jones et al., 2004). Lobbying activities can take a variety of forms through formal and informal channels, such as discussions with members of regulatory bodies, pressure through media reports and campaigns, representations to regulatory bodies, as well as written submissions to publicly available EDs on accounting standards (Walker and Robinson, 1993; Georgiou, 2004).

Despite acknowledging that lobbying can take a variety of forms, some of which are not always manifest, the accounting literature does not provide a feasible methodology that fully analyses the richness of lobbying activities. For example, lobbying may occur through the provision of subsidised information to a rule-making body or during informal telephone conversations but neither of these types of lobbying could feasibly be empirically tested. The form of lobbying which is most visible (and hence most accessible for formal analysis) is through written submissions from interested parties on exposure drafts preceding the publication of financial reporting standards. Thus, the main body of empirical research examines this form of lobbying. The work by Georgiou (2004), examining different methods of lobbying and their perceived effectiveness, suggests that comment letters are likely to be a good proxy for at least the direct lobbying activities to which a regulatory body is subjected.

Two main themes can be identified in the literature investigating lobbying within the accounting standards-setting process. One group of researchers considers relationships of power within the standard-setting process and examines regulators' interactions with parties involved in lobbying (e.g. Hope and Gray, 1982; Pong and Whittington, 1996; Weetman, 2001; Kwok and Sharp, 2005). A second group analyses the incentives to lobby and their impact on lobbyists' behaviour (e.g. Watts and Zimmerman, 1978; McArthur, 1988; Weetman et al., 1994; Hill et al. 2002). Standard-setting takes

(1982), Hope and Gray (1982), and Feroz (1987). However, none of these studies conducts fully comprehensive comparable analysis of the lobbying of different constituent groups.

place in institutional and social contexts where allocations of power are affected by cultural, political and market forces (Young, 1994; MacDonald and Richardson, 2004). The regulator, in order to survive and maintain her/his position, must establish and preserve legitimacy in the eyes of the constituents⁶ (Watts and Zimmerman, 1986; Young, 2003; Masocha and Weetman, 2007). This provides some constituents with the scope to recreate institutional relationships according to their preferences, as described by empirical studies of lobbying at national (Jupe, 2000; Weetman, 2001) and international levels (Kenny and Larson, 1993; Kwok and Sharp, 2005).

Research examining standard-setters' responsiveness to constituents' suggestions as expressed in their comment letters presents contradictory findings. Some researchers cite examples of successful lobbying (Hope and Briggs, 1982; Hope and Gray, 1982; Nobes, 1992; Pong and Whittington, 1996; Kwok and Sharp, 2005), while other studies reveal evidence of the low impact of lobbyists' submissions on the regulator (Brown, 1981; Mian and Smith, 1990b; Saemann, 1999; Weetman, 2001).⁷ When successful lobbying is evidenced, the corporate sector is the most frequently mentioned constituent group that appears to exert influence (Hope and Briggs, 1982; Hope and Gray, 1982; Nobes, 1992; Jupe, 2000; Ang et al., 2000). Other authors indicate that regulatory bodies, regardless of the degree of their responsiveness, are most aligned to the views of users of financial statements (Saemann, 1999; Weetman, 2001) even if only 'on the surface' (Weetman, 2001: 105). Some studies find no alignment between the behaviour of regulators and the preferences of specific lobbying groups (Hussein and Ketzi, 1980; Coombes and Stokes, 1985; Giner and Arce, 2004), and this is interpreted as evidence of the independence of standard-setters. Analysis of the structure of constituent participation consistently reveals that preparers of financial statements are the most active lobbying group and that responses from users of financial statements are infrequent by comparison (Weetman et al., 1994, 1996; Ryan et al., 2000).

A second theme of research attempts to identify incentives associated with the decision to lobby and

seeks to analyse the impact of such incentives on the lobbying positions of constituents. These studies are based on the assumption that since lobbying activities involve real economic costs, a rational individual or organisation will only lobby if the benefits of the desired outcome, adjusted by the probability that lobbying will lead to the desired outcome, exceed these costs (Olson, 1965; Sutton, 1984; Watts and Zimmerman, 1986; Lindahl, 1987). Such studies mostly consider lobbying incentives for two categories of constituents, corporate respondents and accounting firms.

Generally, the benefits of lobbying for corporate respondents are seen to depend upon the potential impact of the proposed regulations on their expected future cash flows through political and contracting costs (Watts and Zimmerman, 1986). Firm size as a proxy for political costs has been found to be the most important determinant of lobbying behaviour (Watts and Zimmerman, 1978; Larson, 1997; Ang et al., 2000; Georgiou, 2005). This is followed by the debt/equity ratio (Dhaliwal, 1980; Deakin, 1989; Ndubizu et al., 1993) and management compensation plans (El-Gazzar et al., 1986; Deakin, 1989) as proxies for contracting costs. The relevance of proposed rules or rule changes to the particular economic setting of a company has been offered as a proxy for compliance costs. Research testing this proxy has found evidence of its impact on managers' lobbying behaviour (Sutton, 1988; Mian and Smith, 1990b; Larson, 1997; Hill et al., 2002).

Studies of the incentives of accounting firms have revealed tendencies for firms to favour regulatory proposals that enhance their audit opportunities (Puro, 1984, 1985; Clarke et al., 1997; Saemann, 1999) and tendencies to lobby in a manner that establishes and maintains their public credibility (Booth and Cocks, 1990; Lee, 1993, 1995; Saemann, 1999). An alternative approach, which regards accounting firms' wealth as a function of their clients' wealth, suggests that accounting firms would lobby for rules that promote their clients' economic interests (Watts and Zimmerman, 1981; McKee, 1991; Meier et al., 1993; Owsen, 1998; Georgiou, 2002).

Some researchers have examined the content of submissions to analyse lobbying strategies employed by respondents to discussion papers and exposure drafts (Nobes, 1992; Tutticci et al., 1994; Weetman et al., 1996; Jupe, 2000; Weetman, 2001). In relation to the nature of arguments used, respondents are found to use either conceptually-based arguments that refer to accounting concepts or principles, or economic consequences-based

⁶ The word 'constituents' refers here to all parties who have an interest in financial accounting and reporting.

⁷ According to this group of researchers a low rate of comment incorporation into final standards may mean that a rule-making body either attempts to compromise diverse constituent preferences or simply ignores the comments (Brown, 1981). Alternatively, the crucial issues may have been already discussed in private before the consultation was brought into the public domain (Weetman, 2001).

arguments that refer to economic implications of proposed regulatory changes. Additionally, some studies reveal that respondents also use rationales that combine both conceptually-based and economic consequences-based arguments when justifying their position (Tutticci et al., 1994; Jupe, 2000). With regard to the strength of respondents' comments, lobbyists are found to express varying degrees of agreement or disagreement, from full support through support with minor or substantial reservations, to a fundamental objection (Tutticci et al., 1994).

Some studies suggest that lobbyists may present positions that do not reflect their true beliefs if those beliefs might be perceived as socially or politically unacceptable. Jupe (2000: 346) argues that, in their efforts to influence a regulator, respondents may have implicitly considered economic consequences but explicitly may have used self-referential arguments that related to their own accounting practices. In addition, Weetman et al. (1996: 75) suggest that with lack of user participation in the standard-setting process, preparers may be ready to advance their opinions of users' needs in order to enhance the credibility of their own submissions. The transparency of corporate submissions has also been questioned by, for example, MacArthur (1988), Tutticci et al. (1994), and Dechow et al. (1996).

3. Regulatory background

The present study, as indicated earlier, uses the regulatory concept of control that determines the scope of consolidation as its focus for the analysis of lobbying activities. The main rationale of consolidation is to aggregate results, assets and liabilities of entities that despite having separate legal identities can be considered a single economic unit (Mumford, 1982; Nobes, 1987, 1993; see also: ASB, 1999, ch. 2). Following this logic, the question of which undertakings are to be consolidated is tied to the concept of control: all entities that are controlled by a company ought to be consolidated in that company's accounts (Nobes, 1987, 1993; see also: ASB, 1999, ch. 2). That said, the development of regulation on control and consolidation is complex and the regulatory space has been correspondingly densely populated (Nobes, 1993; Rutherford, 2007: 258–264). We shall now briefly review this development to set the regulatory background for the paper.

In the UK, group accounts have been prepared since at least the 1920s but were not required by law until the Companies Act 1947 (Wooldridge, 1981; Edwards and Webb, 1984; Nobes and Parker, 1984; Nobes, 1987, 1993). However, the Act did not

specify detailed rules and a parent company could choose between several options in presenting its group accounts (Companies Act 1947, s. 151(3)). Following a long period of regulatory stability these options were narrowed to the form of full consolidation⁸ by SSAP 14 *Group Accounts* (ASC, 1978) issued by the Accounting Standards Committee (ASC) (Wooldridge, 1981: 22). Consolidation became the only permissible form of group accounts by statute rather later, through the Companies Act 1989, which implemented the EU Seventh Directive into UK company law (Pennington, 1990; Wooldridge, 1991; Nobes, 1993). Prior to the Companies Act 1989 recognition of control was mainly based on ownership of equity, requiring a parent either: (a) to hold more than half in nominal value of the subsidiary's equity; or (b) be a member of it and control the composition of its board of directors (Wooldridge, 1981: 17). The implementation of the EU Seventh Directive in statutory provisions switched recognition criteria from being based on legal rights (*de jure*) to those based on effective (*de facto*) control. It is important to note that lobbying with regard to the concept of control occurred during the UK's negotiations on the EU Seventh Directive. Diggle and Nobes (1994) have examined the lengthy process of shaping the EU Seventh Directive⁹ and conclude that the Seventh Directive evolved from its initial draft based on German principles and practices into a final form more Anglo-Saxon in content. The changes arose in part from the substitution of UK elements for German, as well as from the addition of UK options to German rules (the final version of the EU Seventh Directive contained a large number of options available to EU Member States). These changes Diggle and Nobes (1994) attribute to the activities of a substantial coalition of both national interests and professional accountancy opinion in

⁸ Full consolidation refers here to the practice of combining financial statements of all group undertakings on a line-by-line basis (i.e. adding together corresponding items of assets, liabilities, revenues and expenses), eliminating intergroup balances and transactions, and providing for minority interests in the controlled entities (Wooldridge, 1991: 63). Provisions of the Companies Act 1947 allowed for alternative forms of group accounting, if in the opinion of the directors, a better presentation of the same or equivalent information, which could be readily appreciated by members, could be achieved (Companies Act 1947, s. 151(3)). See also: AISG (1973), Wilkins (1979), Wooldridge (1981), and Nobes (1993).

⁹ A detailed chronology is given in Diggle and Nobes (1994) but briefly, the Seventh Directive originated in a preliminary draft prepared within the Commission in 1974 and was published as a draft directive in 1976; a revised draft directive was released in 1979 and after many years of discussion, compromise and refinement, the final version of the directive was approved in June 1983. See also Muchinski (1999).

favour of the changes. Other macro-level lobbying took place over the choice by the Department of Trade and Industry (DTI) as to which of the many options (Nobes 1990) within the final version of the Seventh Directive were to be adopted in the Bill leading to the Companies Act 1989,¹⁰ lobbying which is important in itself as part of the wider regulatory background but which is also relevant to the lobbying by individual respondents on particular EDs.¹¹

As a result of the implementation of the EU Seventh Directive, SSAP 14 was no longer fully consistent with legislation and needed to be reviewed (Nobes, 1993). The review was undertaken initially by the ASC which issued, in July 1990, ED 50 *Consolidated Accounts* (ASC, 1990b). Shortly after the issue of ED 50, the ASC was superseded by the Accounting Standards Board (ASB). In December 1990 the ASB issued an Interim Statement *Consolidated Accounts* (ASB, 1990a) which had immediate effect, to coincide with the introduction of the accounting provisions of the Companies Act 1989. At the time, the stated intention of the ASB was to issue a Financial Reporting Standard (FRS), dealing not only with subsidiaries but also associates and joint ventures. However, due to the complexity of the subject and recognition of the pressing need to issue a standard dealing with subsidiaries, in 1992 the ASB decided to issue FRS 2 *Accounting for Subsidiary Undertakings* (ASB, 1992) and left accounting for associates and joint ventures for subsequent attention. In drafting FRS 2, the ASB considered comments submitted on ED 50. FRS 2 (para. 14) refers directly to the Companies Act 1989 (s. 285) and lists conditions under which control can be identified and therefore a subsidiary undertaking recognised.

Identification of control for the purpose of determining the scope of consolidation is also dealt with in FRS 5 *Reporting the Substance of*

Transactions (ASB, 1994). The ability to exercise control is not only confined to cases where another entity is a subsidiary undertaking as defined in the statute. It was recognised that reporting entities might sometimes establish other undertakings by arrangements that provided the first entity with effective control, but where none of such arrangements were covered by any of the legal tests for control recognition (ED 49, ASC, 1990a, para. 58). Such entities had been widely used for off-balance-sheet financing schemes (Peasnell and Yaansah, 1988). As a remedy, the concept of quasi-subsidiary was introduced.¹² Instead of a list of tests, quasi-subsidiaries were identified by direct application to the definition of control itself. As the essence of control is the ability to obtain benefits, in deciding whether an entity was a quasi-subsidiary of another enterprise, regard was to be given to those who enjoyed benefits arising from its activities (FRS 5, para. 32). Generally, where the commercial effect for the reporting enterprise was no different from what would result from having a subsidiary then the vehicle was to be classified as a quasi-subsidiary and, following the notion of reporting substance over form, consolidated.

At the time of the release of the exposure drafts preceding FRS 2 and FRS 5, the scope of consolidation was one of the most pressing and controversial issues in financial reporting in the UK (Peasnell and Yaansah, 1988; Nobes, 1993; Rutherford, 2007: 258–264). The deregulatory thrust of UK governmental policies in the 1980s encouraged the banking sector to lend in newer and more ingenious ways (Rutherford, 2007: 258). This, accompanied by increasingly aggressive management of financial institutions, and active and imaginative financial engineering by companies, contributed to a rapid increase in the use of off-balance-sheet finance in the late 1980s (Rutherford, 2007: 258). Concern with the implications of these developments for

¹⁰ Thus, the DTI was lobbied behind the scenes to shift from its earlier position of supporting the Companies Act 1985 approach to control. The debate about off-balance sheet financing in the UK led the DTI to implement options that would allow for widening the consolidation requirement and restricting opportunities for off-balance-sheet finance schemes (Brown, 1990; Nobes, 1990; and Pimm, 1990). The UK Government's stated intention was to bring off-balance-sheet vehicles back within the scope of consolidation (Pimm, 1990: 88). See also: Wooldridge (1991), Nobes (1993), and Edwards (1999).

¹¹ For example, we may note in the context of footnote 12 below and of our results discussed later that those lobbying on ED 49 would have been aware the DTI had changed its position following the debate on the treatment of quasi-subsidiaries during the development of ED 42, thereby informing directions and strengths of lobbying.

¹² The regulatory treatment of quasi-subsidiaries in off-balance-sheet financing schemes commenced with Technical Release (TR) 603, *Off Balance Sheet Financing and Window Dressing*, issued by the Institute of Chartered Accountants in England and Wales (ICAEW) in 1985, which recommended a substance over form approach. The Technical Committee of the ICAEW passed its work to the ASC and in May 1988 the ASC issued ED 42 *Accounting for Special Purpose Transactions* (ASC, 1988). The debate over ED 42 was 'frozen' pending the passing of the Companies Bill (to become the Companies Act 1989) implementing the EU Seventh Directive with its radical changes to the criteria of control. ED 49 *Reflecting the Substance of Transactions in Assets and Liabilities* (ASC, 1990a), the successor to ED 42, was published by the ASC in May 1990. After much debate the ASB issued FRED 4 *Reporting the Substance of Transactions* (ASB, 1993) in February 1993 before in April 1994 publishing FRS 5 (ASB, 1994).

banking regulation and financial institutional risk management was initially expressed by the Bank of England and soon this concern became more widespread (Rutherford, 2007: 259). The increasingly strident nature of public debate on off-balance-sheet financing was punctuated by pronouncements from the ASC and by suggestions for future legislation from the DTI (Peasnell and Yaansah, 1988). Despite general recognition that there was a need to restrict opportunities for off-balance-sheet finance schemes, substantial reservations with regard to ASC's intentions to broaden the regulatory interpretation and thus recognition of control had been articulated by the legal profession and reported to accountants.¹³ At the end of 1987 the DTI confirmed its intention to implement the EU Seventh Directive in a way that would support the consolidation of controlled non-subsidiaries, aiding the ASC in widening the consolidation requirement (Rutherford, 2007: 262). The pronouncements included in the EDs were generally well received but some concerns remained, articulated mainly by accounting practitioners and academics. These reservations referred to potential difficulties in the practical implementation of the changes (Crichton, 1990; Holgate, 1990; Nobes, 1990; Thompson, 1994) as well as concern that a number of off-balance-sheet finance schemes could still escape consolidation (Brown 1990; Holgate, 1990; Pimm, 1990; Watson, 1996).

4. Hypotheses development

We seek to explore whether there are differences in lobbying behaviour between corporate and non-corporate categories of respondents to four related exposure drafts. Analysis of consent or conflict over the standard-setting process necessitates the grouping of interested parties in some way. A frequently used taxonomy underpinning research into lobbying can be linked to what Booth and Cocks (1990) termed 'historical blocs and the social relations of production'. According to Booth and Cocks 'in present Western society it is widely agreed that there are four such groups: corporate management (as a branch of capital), the professions, and the state and labour' (1990: 518). Many studies of lobbying reflect versions of this taxonomy in the context of the accounting standard-setting process. Three main

constituent categories, with different variations, are frequently identified, namely: (a) preparers of financial statements represented mainly by corporations; (b) users of financial statements, comprising investors, creditors and financial analysts; and (c) the accounting profession, namely accounting firms (Sutton, 1984; Tandy and Wilburn, 1992; Tutticci et al., 1994; Saemann, 1999).¹⁴

In order to analyse the lobbying behaviour of categories of respondents one has to understand their patterns of reasoning, how consent or conflict is founded on these, and how they affect the resolution of any such conflict. Modes of rationality will determine respondents' perceptions of how accounting changes included in regulatory proposals will affect their utility and thus their lobbying behaviour (Sutton, 1984; Lindahl, 1987; Booth and Cocks, 1990). Our division of respondents into corporate and non-corporate categories is based on the assumption that each group will have different modes of rationality but the modes will be consistent within each category. A dichotomous classification is supported by Lindahl (1987: 60) who distinguishes participants in lobbying into two main categories: corporations and members of the accounting profession.

The corporate category embraces preparers of financial statements and includes both individual companies and corporate representative bodies. It is suggested that corporate representative organisations (industry trade associations) will lobby on behalf of their constituents and tend to support the majority of positions held by them (Brown and Tarca, 2001). This positive association between interests and lobbying positions of individual companies and their representative bodies is a consequence of companies being the parties that constitute and fund these representative bodies. Thus, it is assumed that representative bodies lobby in order that their members' preferences are better promoted (Olson, 1965; Sutton, 1984; Lindahl, 1987). The non-corporate category mainly comprises respondents from the accounting profession, accounting firms and professional accountancy bodies. The notion of consistency of position between member accountancy firms and their representative bodies is supported by the empirical work of Kenny and Larson (1993) and Saemann (1999), who argue that not only trade but also

¹³ The dispute between the ASC and the legal profession was widely reported in the professional accountancy press, see: 'Court battle looms over off-balance sheet standard', *Accountancy Age*, 9 April 1987: 1; 'Off-balance sheet legal doubts worsen', *Accountancy Age*, 16 April 1987: 1; 'ASC stance could lead it into a legal quagmire', *Accountancy Age*, 7 May 1987: 14; 'Legal fun and games with the ASC', *Accountancy Age*, 30 July 1987: 13.

¹⁴ There are also some examples of studies that use different taxonomies. For example, Hussein and Ketz (1980) and Puro (1985) in their studies on elites in the FASB grouped the major auditing firms together, while Laughlin and Puxty (1983) and Weetman et al. (1996) divided standard-setting participants into users and producers of financial statements.

professional organisations lobby on behalf of their constituents and tend to support the majority positions held by those constituents. However, it should be noted that professional accountancy bodies will have multiple representative functions (e.g. representing accountants as attestors as well as preparers of accounts, and the pursuit of broader professional aims). In our study the non-corporate group also contains other types of respondents.¹⁵ Hence, the mode of rationality within the non-corporate group may be less homogeneous than that within the corporate group, and although the strength of the assumption on consistency of mode of rationality within groups is likely to be greater for the corporate than the non-corporate group, we posit broad consistency of mode of rationality within each group as the following discussion argues.

In order to explore the modes of rationality of the corporate and non-corporate categories of respondents, we refer to positive accounting theory which argues that all parties to the process of accounting standards-setting, act to maximise their own utility and are innovative and creative in doing so (Watts and Zimmerman, 1986). Thus respondents would tend to lobby for accounting methods that further their self-interest, e.g. reducing the cost or increasing the benefits of regulations (Walker and Robinson, 1993; Young, 1994; MacDonald and Richardson, 2004).

With regard to the corporate category, proposed regulations can affect companies' wealth due to their potential impact on expected future cash flows through political and contracting costs. Thus corporate respondents who lobby would tend to do so to minimise their exposure to political and contracting costs associated with proposed standards (Watts and Zimmerman, 1986; Deakin, 1989; Larson, 1997; Ang et al., 2000; Elbannan and McKinley, 2006). In addition, the more relevant a proposed change of regulation is to a company's business, the greater the company's exposure to economic effects caused by that change and the greater the compliance costs. Therefore, we would expect respondents (corporate as well as non-corporate) to lobby so that they would minimise their exposure to compliance costs, and to address issues of direct relevance to their business context.

¹⁵ In addition to the accountancy profession the non-corporate group also includes some users of financial statements (e.g. the Institute of Investment Management), academics, as well as the Law Society, the International Stock Exchange, and the Department of Trade and Industry, as a representative of government, and regulatory authorities. However, whilst these respondents add variety to the non-corporate group they are in a very small minority.

The mode of rationality of non-corporate respondents, represented mainly by the accountancy profession, can be determined by reference to several different theories, all of which are based on the notion of self-interest. According to agency theory, accountancy firms seeing their wealth as a function of that of their clients, are likely to lobby for rules that would promote their clients' economic interest (Watts and Zimmerman, 1981, 1986; Sutton, 1984; Hendrickson, 1998; Georgiou, 2002, 2004). Alternatively, from the theory of professional and legal responsibility, the accountancy profession has incentives to produce detailed, erudite and conceptually sound submissions in order to create the image of objectivity and professionalism needed to maintain its credibility in the public view (Hines, 1989; Zeff, 1984; Archer, 1992; Lee, 1993, 1995). This view may be applied to both accountancy professional bodies and to accounting firms since the latter are, as well as being profit-making firms, members of a profession (both as corporate bodies and collections of individual professionals). The accountancy profession, according to Booth and Cocks (1990: 519), has historically been presented as a precise, accurate, quantitative, and neutral purveyor of fact whose primary responsibility is to the public. Following this notion, the accountancy profession would regard accounting primarily as 'hard factual technology' (Booth and Cocks, 1990: 519). The use of judgment would be bound by criteria set out in standards to facilitate the development of technical accounting answers to problems of financial reporting and the measurement of wealth. Moreover, the risk of litigation provides the accounting profession with an economic incentive to follow a code of professional ethics and consider issues of clarity, certainty, and the appropriateness of financial statements to audit (Saemann, 1999: 5).¹⁶ Additionally, accounting firms might respond to submissions as a form of advertising, displaying their expertise on a broad range of matters of possible concern to existing and potential clients (Lindahl, 1987). Finally, a third theoretical perspective is provided by the economic theory of regulation, which suggests that the accounting profession would promote accounting proposals that bring additional disclosure requirements, since

¹⁶ Many of the arguments in this paragraph derived from the theory of professional and legal responsibility are applicable to non-accounting members of the non-corporate group namely the Institute of Investment Management, academics, the Law Society, and the International Stock Exchange, thereby supporting our position of broad consistency of rationality mode for the group.

that would enhance demand for their services (with regard to both preparing and auditing financial statements) and corresponding fees earned (Puro, 1984, 1985; Clarke et al., 1997; Saemann, 1999).¹⁷

4.1. Specific and general applicability of the concept of control

In the light of the foregoing discussion and noting our first research question on potential differences in the nature of issues addressed by the two categories of respondents, we hypothesise as follows, in alternative form:

- H1:** Corporate respondents are more likely to address issues of specific applicability of the concept of control than are non-corporate respondents.
- H2:** Non-corporate respondents are more likely to address issues of general applicability of the concept of control than are corporate respondents.

The specification of our hypotheses introduces matters of data and definition. Thus, for our analysis an 'issue' is any matter of concern relevant to an ED or matter contained in an ED referred to by a respondent. Issues of specific applicability are taken to cover matters of direct relevance to a respondent's particular line of business, or are specific to certain types of business activity. They may also refer to particular economic consequences instigated by the proposals. Issues of general applicability are taken to comprise matters of wide-ranging relevance with broad implications that are not specific to particular types of business activity. They may refer to matters of theoretical or practical soundness of concepts or wording used in proposals, or the general technical feasibility of a proposals' implementation. Appendix I presents a detailed list of the issues mentioned by corporate and non-corporate respondents, classified as being of either general or specific applicability to the concept of control.

The extent of lobbyists' attention given to issues of specific or general applicability of the concept of control is measured by the number of submission letters that mention such issues (as reported in Table 2), the frequency of respondents referring to these issues (as reported in Table 3), as well as the

number of arguments and suggestions that address those issues (as reported in Table 4). As an 'argument' we take any systematic line of reasoning or criticism offered by respondents in support of their view and as a 'suggestion' any proposal to modify the terms of an ED. Issues relating to the concept of control may contain single or multiple arguments and/or suggestions, or may be expressions of concern or interest without any argument or suggestion. The use of multiple and layered proxies for lobbyists' attention (i.e. number of submission letters, frequency with which issues are referred to, and frequency of arguments and suggestions used by respondents) permits a detailed examination of respondents' lobbying activity.

We argue that hypotheses H1 and H2 are consistent with the theoretical frameworks of Sutton (1984) and Lindahl (1987) and are supported by the empirical work of Sutton (1988), Schallow (1995), Larson (1997), Ang et al. (2000) and Hill et al. (2002). The literature cited here suggests that the relevance of proposed accounting rules or rule changes to the particular economic setting of respondents has an impact on their lobbying behaviour. Consequently, we posit that corporate respondents will comment on issues of specific applicability of the concept of control to particular industries or companies as these would be of direct relevance to their business activities or their economic context. Following the notion of utility maximisation, it would be a waste of resources for a corporate respondent to comment on general issues without direct applicability to her/his specific economic context.

The non-corporate respondent category is dominated by accountancy firms and their professional bodies. The former are concerned with supplying accounting, auditing and professional advisory services to varied business sectors and the latter are faced with a similarly wide spectrum of diverse accounting issues and interests. Therefore we posit that non-corporate respondents would be more likely to address issues of general applicability of the concept of control as these are directly relevant to their line of business and consistent with other motivations of accountancy firms and their professional bodies. We note that consistent arguments can be applied to the non-accounting professional members of the non-corporate group.

4.2. Conceptual and economic arguments

Our second research question refers to potential differences in the nature of arguments used by the two respondent categories to support their pos-

¹⁷ This position might also be a source of economic incentives for the Law Society. An additional view from this theoretical standing is an interest in sound regulation per se by the accountancy profession qua custodian of professional standards. The Institute of Investment Management, academics, the Law Society, the International Stock Exchange, and the DTI can be considered to share this latter view.

itions; in relation to this question we hypothesise, in alternative form:

- H3:** Conceptually-based arguments will tend to be the most frequently used type of argument in submissions by both corporate and non-corporate respondents.
- H4:** Corporate respondents are more likely to use arguments based on economic consequences than are non-corporate respondents.

Hypotheses three and four require further disaggregation of our data by distinguishing sub-categories of arguments. Conceptually-based arguments are taken to refer to accounting concepts and principles as well as technical issues. Respondents using such arguments would base their reasoning on theoretical and conceptual soundness, as well as the technical feasibility of the proposals. They would also refer to potential institutional and legal complications caused by the proposals if they were to be in conflict (in the respondents' view) with current government policies or already existing regulations and statutory provisions. Economic consequences-based arguments are taken to refer to economic changes associated with proposed accounting regulations and the implications of those changes. Such economic changes would have scope (as perceived by respondents) to influence respondents' utility through the impact on their cash flows. Additionally, we identify a third type of argument, the combined argument, which refers jointly to both economic consequences and conceptual considerations. Typically, a lobbyist using a combined argument might refer to the economic implications of conceptual or technical flaws in proposed regulations (Tuticci et al., 1994).

We argue that hypothesis H3 is consistent with the general findings of the lobbying literature that respondents, on the whole, are more likely to favour conceptually-based arguments to support their positions as they believe such arguments will be more effective in influencing a regulator (Watts and Zimmerman, 1979; Sutton, 1984; Walker and Robinson, 1993; Tuticci et al., 1994; Weetman, 2001). According to Watts and Zimmerman (1979: 273) '... regulation creates incentives for individuals to lobby on proposed accounting procedures, and accounting theories are useful justifications in the political lobbying.' Some respondents may be reluctant to provide economic consequences-based arguments as they might be seen as self-serving and therefore less likely to be considered by a regulator (Jupe, 2000: 346). For hypothesis H4 we draw on positive accounting theory to argue that economic consequences-based arguments, when used, are

more likely to be offered by corporate than non-corporate respondents, since the former are more directly exposed to the specific economic implications of proposed accounting changes than the latter (Sutton, 1984; Lindahl, 1987). Moreover, we take from the literature the suggestion that non-corporate respondents might hesitate to use economic consequences-based arguments as this would conflict with the image of professionalism and objectivity that the accountancy profession (and other professional bodies) favours (Zeff, 1984; Hines, 1989; Booth and Cocks, 1990; Lee, 1993, 1995; Saemann, 1999). We observe that H3 and H4 are consistent in that even if the majority of arguments made are conceptually-based (because inter alia corporate respondents may prefer to disguise economic consequences rationales by using conceptually based arguments), corporate respondents would be still more likely to reveal at least some of their economic consequences-based arguments.

5. Data and methodology

Our analysis is based on the four exposure drafts that preceded the two accounting standards relevant to the concept of control for consolidated accounts. As indicated above, FRS 2 *Accounting for Subsidiary Undertakings* (ASB, 1992) was preceded by ED 50 (ASC, 1990b), while FRS 5 *Recording the Substance of Transactions* (ASB, 1994) was published after the subsequent release of three exposure drafts. These were: ED 42 *Accounting for Special Purpose Transactions* (ASC, 1988); ED 49 *Reflecting the Substance of Transactions in Assets and Liabilities* (ASC, 1990a); and finally FRED 4 *Reporting the Substance of Transactions* (ASB, 1993). Sets of comment letters on these exposure drafts were supplied by the library of The Institute of Chartered Accountants of Scotland.¹⁸

Table 1 reports the number of comment letters submitted on the four exposure drafts by corporate and non-corporate respondents. The letters were analysed for references to the concept of control and those that contained such references were selected for further detailed analysis. Overall, from 194 written responses submitted to the ASC and the ASB on the four EDs, 98 contained references to the

¹⁸ The authors recognise that an exclusive focus on written submissions captures only one of the varieties of actions encompassed within lobbying. As a potential remedy, an examination of materials from ASC and ASB archives was conducted. However, analysis of these materials revealed that records were incomplete and did not contain anything significant for the empirical research reported in the study. Consequently the paper focuses solely on written submissions to the EDs.

Table 1
Numbers of submission letters on all four exposure drafts

<i>Exposure draft</i>	<i>Number of submission letters on all aspects of the EDs</i>			<i>Number of submission letters with one or more reference to the concept of control</i>		
	<i>Corporate submissions</i>	<i>Non-corporate submissions</i>	<i>Total</i>	<i>Corporate submissions</i>	<i>Non-corporate submissions</i>	<i>Total</i>
ED 50	20	22	42	7	21	28
ED 42	27	29	56	12	8	20
ED 49	17	19	36	12	16	28
FRED 4	34	26	60	12	10	22
All four EDs	98	96	194	43	55	98

concept of control and these are the main focus of the present study. Of these 98 submissions, 43 were received from corporate respondents and 55 from non-corporate lobbyists.

The written submissions were reviewed in detail, applying content analysis, a method used widely in social sciences to examine different kinds of documentary accounts. Generally, content analysis is a research technique used to draw inferences from documents concerning sender(s) of the message contained in the document, the message itself, or the audience for the message (Bryman, 2001). In the context of accounting research, content analysis has been used to investigate financial information communicated through written narratives included in corporate annual reports (Aerts, 1994; Beattie and Jones, 1992, 1997); accounting, finance, and tax textbooks (Urbancic, 1993); official pronouncements by accounting bodies (Hooks and Moon, 1993); and written records of tax and legal cases (Taylor and Ingram, 1984). The lobbying literature examining written submissions on EDs has utilised a variety of forms of content analysis. In their studies, authors have employed analysis of different levels of detail and presented results ranging from simply determining whether lobbyists agreed or disagreed with proposals (e.g. Buckmaster and Hall, 1990; Georgiou and Roberts, 2004; Georgiou, 2005) to reporting rationales behind lobbyists' agreement or disagreement (e.g. Tutticci et al., 1994; Weetman et al., 1996; Weetman, 2001; Hill et al., 2002).

As noted above we use data at several levels of aggregation. The highest level is the submission letter (i.e. the entire letter submitted by a respondent, as recorded in Table 1). After the most general level examination of the number of comment letters the analysis proceeds by disaggregating submission letters by classifying the issues which they raise as referring either to the general or specific applicability of the concept of control. Within issues we next identify separately arguments and suggestions

offered by the respondents. To test hypotheses H3, and H4, arguments are further classified as being either conceptual or economic consequences-based or as a combination of the two (i.e. combined arguments).

We note that, considering the four hypotheses together, there are interrelationships within our classification of the contents of responses in that issues of general or specific applicability of the concept of control can be addressed by any type of argument (i.e. conceptual, economic consequences-based or combined). The detailed review of the submissions was undertaken independently by the two researchers and classifications were compared. Where differences in classification arose, these differences were compared and resolved by discussion. The data presented in the paper, and used to test our hypotheses, are the outcome of the agreed classifications.

In order to test our hypotheses we first present descriptive statistics based on frequency and proportions. Subsequently, we apply analysis of variance (ANOVA) techniques and univariate regression analysis to investigate the significance of the observed systematic differences in lobbying behaviour between the two categories of respondents.

6. Results

Hypotheses H1 and H2 relate to the relative likelihoods of corporate and non-corporate lobbyists commenting on issues of specific or general applicability in relation to the proposals in the EDs that refer to the concept of control. Tables 2, 3 and 4 report the data relevant to these hypotheses. Table 2 shows that consistently greater proportions of corporate respondents' submission letters to all four EDs address issues of specific applicability rather than issues of general applicability to the concept of control. The proportions are reversed for non-corporate respondents, again across all four EDs, and show greater emphasis on general applicability

Table 2
Analysis of submissions addressing issues of general versus specific applicability of the concept of control

<i>Submissions</i>	<i>Exposure draft</i>				
	<i>ED 50</i>	<i>ED 42</i>	<i>ED 49</i>	<i>FRED 4</i>	<i>All four Eds</i>
Corporate respondents (number of submissions)	7	12	12	12	43
Submissions on general applicability					
Frequency	3	4	4	2	13
Proportions (%)	42.8	33.3	33.3	16.6	30.2
Submissions on specific applicability					
Frequency	4	11	8	10	33
Proportions (%)	57.1	91.7	66.7	83.3	76.7
Non-corporate respondents (number of submissions)	21	8	16	10	55
Submissions on general applicability					
Frequency	21	8	16	8	53
Proportions (%)	100.0	100.0	100.0	80.0	96.3
Submissions on specific applicability					
Frequency	4	2	5	5	16
Proportions (%)	19.0	25.0	31.2	50.0	29.0

of the concept of control. This is apparent within respondent categories as well as between them.¹⁹ Hence we conclude that the results reported in Table 2 are consistent with hypotheses H1 and H2.

Table 3 reports the frequencies of referring to the issues of general and specific aspects of the concept of control across all four EDs by corporate and non-corporate category of respondents.

Table 3 shows that for three of the four EDs, frequencies and proportions of corporate respondents referring to issues of specific applicability of the concept of control are greater than to the issues of general applicability of it (with ED 50 being an exception). For non-corporate respondents the frequencies and proportions of mentioning issues of general applicability dominate those of specific applicability for all EDs. Overall, taking into consideration all four EDs, over 70% of references from corporate respondents relate to issues of specific applicability of the concept of control and over 82% of total references from non-corporate respondents relate to issues of general applicability of this concept. ANOVA of issues reveals, on average, a significant effect ($F=56.54$) of the type of respondent (i.e. corporate versus non-corporate) on the subject of issues (i.e. specific versus general applicability). This is statistically significant at the 1% level. Additionally, estimates from regression

analysis confirm a significant effect of the type of respondent on the subject of issues which is statistically significant at the 1% level. These results are consistent with hypotheses H1 and H2.

Detailed examination of issues (see: Appendix I) indicates that the specific comments of corporate respondents were related mainly to special purpose financial vehicles (such as financial limited partnerships, credit-granting entities, mortgage securitisation vehicles and pension funds). Respondents expressed concern that if these financial vehicles were to be covered by the proposed regulatory definition of a subsidiary or a quasi-subsidiary, they might be 'unnecessarily' or 'unfairly' required to be consolidated by the originating or funding company. In contrast, non-corporate respondents addressed issues in relation to general interpretation of definitions and concepts included in the proposals. Their comments referred, for example, to discussion of the meaning of the term 'dominant influence', 'participating interest' or 'management on a unified basis'. Also included in their comments were conceptual deliberations on definitions of control and controlled non-subsidiaries.

Table 4 reports the attention given to issues of specific and general applicability of the concept of control by corporate and non-corporate respondents as measured by frequencies and proportions of arguments and suggestions.

From Table 4 we note that across all four EDs corporate respondents consistently exhibit greater frequencies and proportions of arguments and

¹⁹It should be noted that lobbyists could refer in their submissions to issues of specific and general applicability simultaneously. Hence, frequencies and proportions reported in Table 2 are not necessarily additive.

Table 3
Analysis of issues referring to general and specific applicability of the concept of control

Type of respondent	ED 50				ED 42				ED 49				FRED 4				Aggregated frequencies and proportions for four EDs			
	Frequency and proportions of issues referring to control			Total	Frequency and proportions of issues referring to control			Total	Frequency and proportions of issues referring to control			Total	Frequency and proportions of issues referring to control			Total	Frequency and proportions of issues referring to control			Total
	General	Specific	General		Specific	General	Specific		General	Specific	General		Specific	General	Specific		General	Specific		
Corporate																				
Frequency of references	5	4	9	4	12	16	4	8	12	2	12	14	15	36	51	29.4	70.6	100.0		
Proportions of references (%)	55.6	44.4	100.0	25.0	75.0	100.0	33.3	66.7	100.0	14.3	85.7	100.0	29.4	70.6	100.0					
Non-corporate																				
Frequency of references	55	5	60	8	2	10	16	5	21	8	7	15	87	19	106	82.1	17.9	100.0		
Proportions of references (%)	91.7	8.3	100.0	80.0	20.0	100.0	76.2	23.8	100.0	53.3	46.7	100.0	82.1	17.9	100.0					
Totals	60	9	69	12	14	26	20	13	33	10	19	29	102	55	157					

suggestions on control issues that have a specific applicability rather than a general applicability. In contrast, non-corporate respondents exhibit greater frequencies and proportions of arguments and suggestions on the issues of a general applicability of the concept of control. At the aggregate level, for all EDs together, over 82% of arguments and nearly 70% of suggestions offered by corporate respondents refer to issues of specific applicability of the concept of control. The proportions are reversed for non-corporate respondents with 72% of arguments and 74% of suggestions relating to issues of the general applicability of the concept. ANOVA reveals, on average, a significant effect ($F=51.96$ for arguments and $F=15.61$ for suggestions) of the type of respondent (i.e. corporate versus non-corporate) on the nature of arguments and suggestions provided (i.e. referring to issues of specific versus general applicability). Results from regression analysis also indicate a significant effect (at the 1% level) of the type of respondent on the nature of arguments and suggestions offered. These results are consistent with hypotheses H1 and H2.

In passing we may observe that submission letters tended to be focused strongly on multiple issues within the broad scope of control. Across all four EDs only eight submissions were single-issue letters (two on each ED). Amongst the eight there was only one case of a non-corporate respondent commenting on a single matter (to ED 50). We also note that, of the seven corporate respondents submitting a one-issue comment, in each case the issue commented on had a direct relevance to the line of business of the respondent. It is interesting to observe that generally the close association between issues commented on and corporate respondents' business activities (and thus possible self-serving motivation and self-referential nature of comments) was not disguised by respondents.²⁰ For example, in the submission by Lazard Brothers & Co. on ED 50, comments referred to the potential distortion of group accounts caused by the proposed regulatory changes. To illustrate and support its views, Lazard Brothers & Co. enclosed a copy of its own organisational structure and a pro forma balance

²⁰ This aspect of evidence on lobbying poses particular problems of interpretation. There are references in the literature to self-serving motivations in discussing self-referential comments (see for example Jupe, 2000) and whilst such a description may be a reasonable interpretation it may also be pejorative and not accurately reflective of corporate lobbying behaviour since companies may be pointing out real defects in drafts of standards by using the most obviously available examples available to them, those drawn from their own experience.

Table 4
Analysis of arguments and suggestions on issues of general and specific applicability of the concept of control

Type of respondent	ED 50			ED 42			ED 49			FRED 4			Aggregated frequencies and proportions for four EDs		
	Frequency and proportions of arguments/suggestions to control issues	General	Specific	Frequency and proportions of arguments/suggestions to control issues	General	Specific	Frequency and proportions of arguments/suggestions to control issues	General	Specific	Frequency and proportions of arguments/suggestions to control issues	General	Specific	Frequency and proportions of arguments/suggestions to control issues	General	Specific
Corporate															
Frequency of arguments	4	14	18	4	11	15	0	7	2	14	16	10	46	56	
Proportions of arguments (%)	22.2	77.8	100.0	26.7	73.3	100.0	0.00	100	12.5	87.5	100.0	17.9	82.1	100.0	
Frequency of suggestions	2	3	5	3	3	6	2	5	7	7	8	8	18	26	
Proportions of suggestions (%)	40.0	60.0	100.0	50.0	50.0	100.0	28.6	71.4	100.0	87.5	100.0	30.8	69.2	100.0	
Non-corporate															
Frequency of arguments	29	8	37	8	1	9	8	6	14	6	15	54	21	75	
Proportions of arguments (%)	78.4	21.6	100.0	88.9	11.1	100.0	57.1	42.9	100.0	40.0	100.0	72.0	28.0	100.0	
Frequency of suggestions	15	4	19	8	2	10	9	3	12	4	9	37	13	50	
Proportions of suggestions (%)	78.9	21.1	100.0	80.0	20.0	100.0	75.0	25.0	100.0	44.4	100.0	74.0	26.0	100.0	
Total arguments	33	22	55	12	12	24	8	13	21	19	31	102	62	131	
Total suggestions	17	7	24	11	5	16	11	8	19	11	17	45	31	76	

Table 5
Types of arguments used by corporate and non-corporate respondents

<i>Exposure draft</i>	<i>Corporate respondents</i>			<i>Non-corporate respondents</i>		
	<i>Conceptual arguments</i>	<i>Economic consequences based arguments</i>	<i>Combined arguments</i>	<i>Conceptual arguments</i>	<i>Economic consequences based arguments</i>	<i>Combined arguments</i>
ED 50			Total			Total
Frequency	16	2	18	29	0	8
Proportions (%)	89.0	11.0	100.0	78.4	0.0	21.6
ED 42						
Frequency	14	1	15	9	0	9
Proportions (%)	93.3	6.7	100.0	100.0	0.0	100.0
ED 49						
Frequency	6	1	7	13	0	1
Proportions (%)	85.7	14.3	100.0	92.9	0.0	7.1
FRED 4						
Frequency	11	2	16	13	0	2
Proportions (%)	68.7	12.5	100.0	86.7	0.0	13.3
Total						
Frequency	47	6	56	64	—	11
Proportions	83.9	10.7	100.0	85.3	0.0	14.7



sheet of its own financial limited partnerships, and expressed its concern as follows:

'We seek to preserve the status quo: that is, that client funds are not included in our balance sheet or consolidated within our group accounts ... It would be misleading to our customers and banking depositors to show client investments in our balance sheet ... It would also distort our gearing ratios. Clearly it would also be damaging if these client assets (and liabilities) were consolidated into our banking control ratios monitored by the Bank of England ... The other regulator concerned – in our case, Investment Management Regulatory Organisation (IMRO) – looks on these investments as client assets.' (Lazard Brothers & Co. Ltd. ASB, 1990b: 156–157)

This tendency is apparent in other submissions. The Commonwealth Development Corporation (CDC), in its submission opposing consolidation of foreign joint ventures, openly used a self-referential approach, enclosing its financial reports with its comment letter, with its spokesperson stating:

'I enclose a copy of CDC's Annual Report since it is necessary to understand a little of what we are to appreciate the problems which I see in applying some of the provisions of the draft. A list of CDC's subsidiaries and associate companies appears on page 59 to 62 and our present basis of consolidation is explained on page 38. If we were to adopt a full consolidation basis we would appear to be a multi-national conglomerate, which we are not. Note 8 to our accounts represent a consolidation of all our 'non group' subsidiaries; you will see they are a pretty mixed bag. At present we consider we can continue with this form of accounting which is the only meaningful way in which we can report. You will see from the list of associates we are 50% shareholders in a number of companies. But are these companies under our "dominant influence?" (Commonwealth Development Corporation. ASB, 1990b: 189–190)

Hypotheses H3 and H4 refer to relative patterns of use of different types of arguments by lobbyists (i.e. arguments based on conceptual grounds, economic consequences, or a combination of both). Table 5 reports frequencies and proportions of usage of each type of argument by corporate and non-corporate respondents. We note that all respondents considered together generally used conceptually-based arguments. Of the 131 argu-

ments presented across all four EDs, 111 (85%) referred to conceptual considerations; only 6 (5%) were solely related to economic consequences; and 14 arguments (11%) combined conceptual and economic consequences-based justifications. Thus the data presented in Table 5 is consistent with hypothesis H3 which states that both corporate and non-corporate respondents would tend to use conceptually based arguments most often.

As Table 5 further shows, economic consequences-based arguments, when used, come solely from the corporate category of respondents. In all cases these arguments expressed concern with a potential distortion caused by the consolidation of special purpose financial vehicles (if recognised as subsidiaries or quasi-subsidiaries) on gearing and banking capital control ratios of originating or funding entities. These arguments were all received from corporate respondents representing the financial services sector. ANOVA shows, on average, a significant effect ($F=8.86$) of type of respondent on the incidence of economic consequences-based arguments, significant at the 5% level. Additionally, estimates from regression analysis suggest an effect of type of a respondent on the incidence of providing economic consequences-based arguments which is significant at the 10% level. These results are consistent with hypothesis H4.

7. Conclusions

The paper reports the results of detailed comparative analysis of the lobbying behaviour of two distinctive categories of respondents to four related EDs. These EDs were relevant to the regulatory concept of control used to determine the scope of consolidation in the UK prior to the implementation of IFRS. Whilst in the broad tradition of previous studies of lobbying on accounting standards, our research represents a contribution to the literature by providing evidence of differences in the pattern of lobbying behaviour between two different categories of respondents – corporate and non-corporate lobbyists. Moreover, the present study examines together four related EDs directed at a single area of regulation. In doing so it seeks to address the complexity of lobbyists' submissions rather than standard-setters' responsiveness to suggestions or the motivations of the parties involved in lobbying, the latter two themes being already well-represented in existing research. Complexity in lobbying through comment letters is examined using detailed content analysis of submissions, distinguishing issues addressed and arguments used by lobbyists. We classify issues as of specific or general applicability to the concept of control and

classify arguments by whether they are linked to conceptual, economic consequences, or combined concerns.

The results presented lend overall support to our hypotheses. Corporate respondents were found to devote much more attention to issues of specific applicability of the concept of control, whereas non-corporate respondents tended to devote more attention to general issues. Strong associations between the issues raised by corporate respondents and their line of business were revealed. These links were not generally disguised by respondents. With regard to the use of different types of arguments, both categories of respondents were found, as hypothesised, to advance conceptually-based arguments most often in their submissions. However, when economic consequences-based arguments were used, they came consistently from the corporate group.

In addition to the analytical and empirical contributions noted above, the paper provides a further contribution through its choice of subject matter. The concept of control for consolidation has been not only a past source of controversy in financial reporting and regulation, but remains controversial. Hence the subject of the paper maintains its relevance to current regulatory activities. Two long-standing IASB projects relate to the concept of control and confirm this as an unsettled area of regulation. This further regulatory attention may be necessary due to contemporary accounting scandals involving special purpose entities and a lack of clarity in current IFRS²¹ creating a pressing need to produce a single unified international standard (Paterson, 2003).

Thus the continuing regulatory relevance of control for consolidation offers potential for further

research. In particular the two IASB projects provide valuable opportunities for the examination of lobbying activities during the projects themselves and on the resulting EDs.²² Analysis of lobbying at the international level requires attention to each of the non-national interest groups (which may be domestic or pan-national), national interests (e.g. of nation states as represented by governments), and international interests, and hence is conducted in a richer institutional and political context than purely domestic standard-setting. The present study has focused on the domestic dimension of lobbying but, as the paper has noted, significant international forces operated in conjunction with domestic lobbying during the period covered by the research. Thus the EU Seventh Directive provided a complicating backdrop to the lobbying analysed in this paper. Cooper et al. (1996) compared accounting rule-making in the context of the implementation of EU directives to a game played out both internationally and nationally which involves interchange between the accountancy profession and the state, possibly involving issues not directly arising from directives.²³ Although some limited discussion of macro-level lobbying has been offered in the paper, we note that our decision not to consider in detail the full implications of such lobbying issues can be considered a limitation. However, we argue that it is one which we must accept, as addressing these issues fully would extend the scope of the present study too far. The limited data stored in ASC and ASB archives provided major constraints to the systematic conduct of such research but if investigation brings into the public domain additional data linked to such sources the analysis provided here may be enriched further.



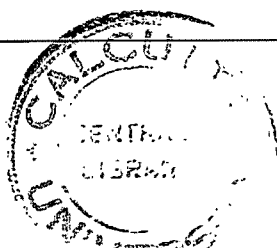
²¹ As Hoogendoorn (2006: 25) comments: 'IFRS is unclear and unstable ... [The] best illustration is the interpretation of IAS 27 on consolidation. The IASB concluded that IAS 27 requires consolidation when de facto control exists. None of the Big Four audit firms had reached that conclusion. Apparently, IAS 27 is unclear.'

²² At the time of writing the ED on Phase D of *Conceptual Framework Project: Reporting Entity* was estimated for the release in the second half of 2009 while the ED on the *Consolidation Project* was to be published at the beginning of 2009.

²³ Inter alia Cooper et al. (1996) examine UK reaction to and lobbying against the independence provisions of the draft Eighth Directive against the background of other political processes occurring concurrently including shifting interrelationships between the UK profession and government, suggesting the existence of a multi-level process in the development of international accounting regulations. See also: Evans and Nobes (1998).

Appendix I**Issues addressed by corporate and non-corporate respondents**

<i>General applicability</i>	<i>Issues addressed Frequency</i>	<i>Specific applicability</i>	<i>Frequency</i>
ED 50			
<i>Corporate respondents</i>			
Dominant influence	3	Foreign joint ventures	2
Management on a unified basis	1	Financial limited partnerships	1
Control contracts	1	Credit granting entities	1
<i>Non-corporate respondents</i>			
Definition of control	7	Financial limited partnerships	2
Dominant influence	16	Funds under management	1
Participating interest	2	Venture capital companies	2
Management on unified basis	12		
Benefits of control	12		
Economic dependence	5		
Management contracts	1		
ED 42			
<i>Corporate respondents</i>			
Definition of control/controlled non-subsiary	4	Securitized mortgage vehicles	9
		Pension funds	2
		Associates and joint ventures	1
<i>Non-corporate respondents</i>			
Definition of control/controlled non-subsiary	8	Securitized mortgage vehicles	1
		Pension funds	1
ED 49			
<i>Corporate respondents</i>			
Definition of control/quasi-subsiary	4	Securitized mortgage vehicles	7
		Factored debts	1
<i>Non-corporate respondents</i>			
Definition of control/quasi-subsiary	16	Securitized mortgage vehicles	5
FRED 4			
<i>Corporate respondents</i>			
Definition of control/quasi-subsiary	2	Securitized asset vehicles (mainly mortgages)	7
		Pension funds	1
		ESOPS	2
		Consolidation of investee companies by investment trust entities	1
		Sale/leaseback agreements	1
<i>Non-corporate respondents</i>			
Definition of control/quasi-subsiary	8	Pension funds	4
		ESOPs	2
		Sale/leaseback agreements	1



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Media pressures and corporate disclosure of social responsibility performance information: a study of two global clothing and sports retail companies

Muhammad Azizul Islam and Craig Deegan*

Abstract — This paper investigates the social and environmental disclosure practices of two large multinational companies, specifically Nike and Hennes & Mauritz. Utilising a joint consideration of legitimacy theory and media agenda setting theory, we investigate the linkage between negative media attention, and positive corporate social and environmental disclosures. Our results generally support a view that for those industry-related social and environmental issues attracting the greatest amount of negative media attention, these corporations react by providing positive social and environmental disclosures. The results were particularly significant in relation to labour practices in developing countries – the issue attracting the greatest amount of negative media attention for the companies in question.

Keywords: developing country; multinational buying company; legitimacy; media agenda; social and environmental disclosure

1. Introduction

This paper investigates the corporate social responsibility disclosures of two multinational clothing and sportswear companies, these companies being Nike and Hennes & Mauritz (H&M). These two companies are among many multinational companies that source much of their products from lower cost developing countries, and have done so for a number of decades (Wilkins, 2000; WTO, 2004; The World Bank, 2007; Haltsonen et al., 2007; Hughes et al., 2007; De Tienne and Lewis, 2005; Landrum, 2001).¹ Predominantly, the decision by many multinational companies to source products from developing countries has been motivated by the relatively low costs of obtaining products and services from these countries (Wilkins, 2000; Custers, 1997; Kabeer and Mahmud, 2004). However, hand-in-hand with the low costs has generally been poor workplace practices and the absence of frameworks to protect the safety and rights of local workers (Custers,

1997; Wah, 1998; Haltsonen et al., 2007; Emmelhainz and Adams, 1999).

Whilst poor workplace practices and use of child labour did not appear to attract global attention prior to the 1990s, since the mid-1990s many high profile multinational companies have frequently been at the centre of global criticisms. These criticisms have related to their association with the use of child and forced labour, workplace accidents (often from fire), and the verbal and physical abuse of people working within supply factories located in developing countries (Bachman, 2000; Spar, 1998; Wah, 1998; Haltsonen et al., 2007; De Tienne and Lewis 2005).

The association of many multinational companies with dubious workplace practices in developing countries has highlighted issues about the corporate social responsibilities of corporations with regards to workers within their supply chains. Questions arise about whether corporate social

*Muhammad Azizul Islam is at the School of Accounting, Economics and Finance, Deakin University, Australia and Craig Deegan is at the School of Accounting & Law, RMIT University, Australia. They would like to acknowledge the very helpful comments made by the reviewers and the editor.

Correspondence should be addressed to: Professor Craig Deegan, School of Accounting & Law, RMIT University, GPO Box 2476V, Melbourne, Victoria, Australia 3001. Tel: +61 3 9925 5750. Fax: +61 3 9925 5741. E-mail: craig.deegan@rmit.edu.au.

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¹ In recent studies WTO (2004) and the World Bank (2007) have identified that many US and European companies have moved their production to various low-wage countries such as Bangladesh, Vietnam, Thailand, Indonesia, India, China and Cambodia. Consistent with this trend, the two companies at the centre of our analysis – Nike and H&M – have been disclosing (within their annual reports and within other documents) that they have also been sourcing a great deal of their products from these countries for a number of years. It has been argued that given the expansion, over the last 15 years, of the 'global clothing production network', clothing manufacturing in many developed countries has almost ceased (Shelton and Wachter, 2005).

responsibilities and associated accountabilities justifiably extend beyond the direct employees of an organisation (for example, see Christopherson and Lillie, 2005; Mc Clintock, 1999; Barrientos, 2000). However, there is a general lack of research in the social and environmental accounting literature that specifically focuses on the disclosure practices of multinational companies sourcing their products from developing countries and how global pressures in turn impact their disclosure practices. In this paper we seek to investigate factors that motivate multinational companies to make disclosures in relation to their activities in developing countries. In doing so, we explore whether motivations that have been found to explain corporate social disclosures in developed countries also seem to provide insights when applied within the context of a developing country.

This study draws upon both legitimacy theory and media agenda setting theory to explore a hypothesised link between community concerns, and the social disclosure practices of two multinational companies. Arguments based on media agenda setting theory are advanced which suggest that the global news media is able to influence the expectations of the global community. Relying upon legitimacy theory, a relationship between global community expectations (which we shall argue are shaped by the global news media) and corporate disclosure practices is explored across the two global clothing and sports retail companies. The two companies at the centre of our analysis are major multinational buying companies sourcing a significant proportion of their products from numerous manufacturers operating in developing countries inclusive of Bangladesh, India, Cambodia, Vietnam, and Indonesia. Consistent with legitimacy theory, large multinational companies will find it costly to be linked with supply chain organisations that are found to breach the expectations of the global community. As such, multinational companies, when exposed to negative global news coverage pertaining to suppliers' labour practices, appear to exert pressure on suppliers to conform with the expectations that have been placed upon them by the community (see for example, Frenkel, 2001; Frenkel and Kim, 2004; Roberts, 2003; Egels-Zanden and Hyllman, 2006; Haltsonen et al., 2007; Hughes et al., 2007; Emmelhainz and Adams, 1999; Kolk and van Tulder, 2002, 2004; Radin, 2004; Wah, 1998). We will also expect, consistent with legitimacy theory, that the multinational companies not only act to create changes in the suppliers' practices, but they will make disclosures

to show the global community that they are responding to community concerns.

Our paper contributes to the social and environmental accounting literature because it provides insights into the disclosure practices of multinational companies with respect to their operations within developing countries – an area in which there is limited published research (Islam and Deegan, 2008), but which nevertheless has been an area of performance that has attracted considerable community attention. Further, whilst past research (for example, Brown and Deegan, 1998; Deegan et al., 2002) has focused on the relationship between media attention and corporate disclosure it has focused on media attention generated within the 'home country' of the corporations in question. By contrast, we explore whether media coverage of a 'global' nature appears to impact corporate social disclosures.

The balance of this paper is structured as follows. The next section, Section 2 provides a brief background to the multinational companies that are the focus of this study. Section 3 provides a brief overview of previous relevant research and the theoretical perspectives embraced within this paper (media agenda setting theory and legitimacy theory), and Section 4 provides the hypothesis of this paper. Section 5 provides details of the research methods employed, and Section 6 provides the results of the study. Section 7 provides concluding comments and discusses some implications that flow from the paper's findings.

2. Brief background of two global clothing and sport retail companies

In this paper we are investigating the disclosure practices of two major clothing and sports retail companies. One company, H&M, is a Swedish-based international clothing retail corporation. Its first store was opened in Sweden in 1947 and by the end of the 2007 financial year there were 1,522 stores in 28 countries (Annual Report 2007). For the period of our analysis (which is 1988 to 2006), H&M did not own any manufacturing factories (Annual Report 1996, 2007), but instead worked with suppliers, primarily in Asia and Europe (Annual Report 1996; H&M Social Responsibility Report 2004). In 2004, H&M worked with around 700 suppliers in Asia and Europe (H&M Social Responsibility Report 2004). In 2006, the latest period in which we did our analysis, H&M employed over 60,000 people (Annual Report 2006). Its turnover in 2006 was US\$11.21 billion (H&M Annual Report 2006) and in 2006 H&M

sourced a major proportion of its clothes from Bangladesh (H&M Annual Report, 2006).

During our study period, Nike was the world's leading designer, marketer and distributor of authentic athletic footwear, apparel, equipment and accessories for a wide variety of sports and fitness activities (<http://www.nike.com>; De Tienne and Lewis, 2005; Landrum 2001, p. 57; Annual Report, 1990; Annual Report, 2006). In 2005–2006 Nike produced approximately 50,000 product styles and sold its products in more than 160 countries (Nike Annual Report, 2006). In 2006 there were approximately 28,000 employees who worked for Nike worldwide (<http://www.nike.com> and Nike Annual Report, 2006). In the financial year 2005–2006, almost 800,000 workers were employed in 687 contracted factories within 49 countries producing Nike-branded product (<http://www.nike.com> and Nike Corporate Responsibility Report 2005–2006). The majority of Nike contracted factories were in 10 developing countries – China, India, Indonesia, Vietnam Brazil, Thailand, Mexico, Turkey, Honduras and Bangladesh (Nike Corporate Responsibility Report, 2005–06). Nike reported net revenues of \$15 billion for the 2006 financial year (Nike Annual Report, 2006).

3. Prior research

The most widely embraced theoretical perspective in the social and environmental accounting literature to explain corporate motivations for reporting is legitimacy theory. Because there are numerous detailed overviews of legitimacy theory available (for example, see Deegan, 2009) it is not our intention to provide an in-depth overview of the theory in this paper. Briefly, legitimacy theory asserts that an organisation's management will undertake actions with the intention of generating a perception within the community that the organisation's value system is congruent with the value system of the larger social system of which the organisation is a part (Lindblom, 1994). The view taken is that there is a 'social contract' between an organisation and the society (societies) in which it operates, and any breach of the social contract has negative implications for the ongoing survival of the organisation. A 'legitimate organisation' – and therefore one that has the support of the community – is one that complies with the terms of the social contract.² The values and expectations of the

community are not considered to be fixed, but change over time (creating changes in the 'social contract'), thereby requiring organisations to be responsive to the changing ethical (or moral) environment in which they operate.

Corporate disclosures are considered to be fundamental to efforts to maintain or regain legitimacy (O'Donovan, 2002). That is, whilst organisations might change their operations to conform to changing community expectations, to be effective in retaining or regaining legitimacy it is vital that the organisation informs its 'relevant publics' about such changes. In considering community expectations, it is further argued that organisations operating solely within a particular location (for example, within one country) must respond to the expectations of people within that location, whereas organisations operating globally must respond to global expectations if they are to succeed (Zarzeski, 1996; Newson and Deegan, 2002).

Pursuant to legitimacy theory, if the community expects an organisation to attend to issues beyond financial performance then the ultimate survival of that organisation requires the organisation to demonstrate broader (beyond financial) responsibilities. The demonstration by organisations of broader responsibilities is considered to be driven by a strategic desire to ensure the success of the organisation, rather than being driven by a desire to embrace morally appropriate behaviours (Deegan and Blomquist, 2006).

While legitimacy theory asserts that managers need to respond to changing community expectations if they are to be deemed to be 'legitimate' (and therefore perceived to be complying with their 'social contract') we are left to consider what factors actually create changes in community expectations. More specifically, while legitimacy theory suggests that managers will seek to eliminate or minimise a legitimacy gap (the gap between the society's perception of an organisation's value system, and the value system of the larger social systems) by disclosing particular information, we are left to consider what factors may have brought particular issues to the attention of the 'relevant publics' in the first place. Evidence indicates that poor labour practices had existed in developing countries for decades, but it was only in the latter part of the 1990s that western consumers seemed to become concerned (Islam and Deegan, 2008). What caused this change?

One factor that has been suggested as being particularly influential in creating legitimacy gaps for an organisation is the news media. The news media can be particularly effective at informing the

² The social contract is considered to be made up of numerous terms (or clauses) – some explicit, some implicit. Gray et al. (1996) suggest that legal requirements provide many of the explicit terms of the contract, while other non-legislated societal expectations embody the implicit terms of the contract.

community of aspects of corporate performance that were previously unknown. The revelation of previously unknown information can in turn create legitimacy problems for an organisation. As Nasi et al. (1997: 301) state:

‘The potential body of information about the corporation that is unavailable to the public – the corporate shadow (Bowles, 1991) – stands as a constant potential threat to a corporation’s legitimacy. When part of the organizational shadow is revealed, either accidentally or through the activities of an activist group or a journalist, a legitimacy gap may be created.’

Building on a belief that the media is an important factor in shaping community concerns and expectations a number of researchers developed a theory – known as media agenda setting theory – to further explain the potential of the media to influence community expectations, and subsequently, corporate communications (see, for example, Carroll and McCombs, 2003; Deephouse, 2000; Fomburn and Shanley, 1990). Media agenda setting theory posits that the media shapes public awareness, with the media agenda preceding public concern for particular issues (McCombs and Shaw, 1972). The view taken is that the public needs the media to tell them how important an issue within the ‘real world’ is as, for many issues, individuals do not learn this from available real world cues. Neuman (1990) identifies a distinction between ‘obtrusive’ and ‘unobtrusive’ issues. He notes, for example, that inflation is seen as a ‘classic example’ of an obtrusive issue because the public would become aware of it every time they went to the store and they do not need the media to report the official statistics to realise that this issue affects their lives. Unobtrusive issues, on the other hand, would include foreign events (such as polluting activities undertaken at off-shore locations, or workplace practices in remote factories) which cannot be experienced or known by the public without the media functioning as a conduit (Zucker, 1978; Neuman, 1990). It is argued that the media’s agenda setting effect is most apparent in relation to unobtrusive events.

An important dynamic which is closely associated with the media agenda setting effect is the time lag. The agenda setting hypothesis predicts that a matching public agenda lags behind the media coverage of an issue (McCombs and Shaw, 1994). Ader (1995) found that the time lag between changes in the media agenda and changes in the public agenda are typically less than about four months. Previous time lags employed in agenda-

setting research have ranged from one week to nine months (Wanta et al., 2004).

Accounting researchers have embraced media agenda setting theory to explain changing community expectations and the implications these changing expectations have on corporate disclosure policies. In the first known study in the accounting literature to explicitly adopt media agenda setting theory in conjunction with legitimacy theory, Brown and Deegan (1998) adopted media coverage as a proxy for community concern to explain corporate annual report disclosures of Australian companies. In relation to their study, Brown and Deegan (1998: 34) state:

‘this study has contributed to the literature because it has shown, unlike any other known study, that the environmental disclosure strategies of management is associated with the extent of media attention. More specifically, variations in media attention appear to be positively associated with variations in corporate disclosures.’

Another two studies conducted within Australia (Deegan et al., 2002; O’Donovan, 1999) also confirmed that media attention of a continuing nature, particularly negative media coverage, through its perceived impacts on corporate legitimacy, do elicit a disclosure response from corporations (the disclosures in question occurring within the corporations’ annual reports).

3.1. The application of prior research to the context of a developing country

Whilst a joint consideration of legitimacy theory and media agenda setting theory has provided useful insights into why corporations operating in developed countries make corporate social disclosures, there is a general absence of such research within the context of operations undertaken within a developing country. We extend this research by considering media coverage given to activities occurring within developing countries and we explore how multinational companies react to this media attention.

Applying these theories in the context of a developing country, in the 1990s, and again recently, the issue of child labour, and poor working conditions in third world countries’ supply factories created much negative media publicity world-wide (Islam and Deegan, 2008). Consistent with legitimacy theory, we would expect those managers in charge of global companies to not only undertake actions to eliminate the unacceptable use of child labour in their supply chain – the use of which is unacceptable to the communities in which the

global companies operate – and to eliminate exploitation of workers by their suppliers, but to make disclosures to highlight such efforts. That is, because of the potential implications that being associated with poor labour conditions will have for an organisation's legitimacy, organisations will make disclosures to indicate that they are taking actions to ensure that poor labour practices are not being adopted by organisations within the supply chain.

In reviewing multinational companies' disclosure practices as they pertain to developing countries, one paper that is of particular relevance to our research, and which we have already referred to, is Islam and Deegan (2008). Islam and Deegan (2008) utilised interviews with a number of senior executives of a large export oriented clothing trade organisation operating within a developing country, namely Bangladesh Garments Manufacturers and Exporters Association (BGMEA).³ The interviews sought the senior executives' views about the various social and environmental pressures and expectations imposed upon BGMEA, and its member organisations, by their respective stakeholders, and how these pressures and expectations changed across time. Within Islam and Deegan (2008), the BGMEA executives' perceptions about the expectations of powerful stakeholders, and how these expectations have changed across time, were shown to be directly linked to BGMEA's operating and reporting practices (annual report disclosure practices over the period from 1987 to 2005 were reviewed). Specifically, according to the BGMEA officials interviewed, the social responsibility initiatives of BGMEA and its membership directly responded to the concerns of multinational buying companies – the group they believed constituted the most powerful stakeholder group. According to the BGMEA executives interviewed in Islam and Deegan (2008), the concerns conveyed by multinational companies about workplace practices and the employment of child labour only arose in the second half of the 1990s – a time which the BGMEA executives believed was when the multinational companies started coming under pressure from western consumers in relation to the labour practices in use within the supply chains. The BGMEA executives made specific reference to the

expectations of, and pressures exerted by, buying companies such as Nike and H&M – the two companies that are the focus of this paper.

Islam and Deegan (2008) also report that when a senior member of BGMEA was interviewed in 2006 in relation to changing pressures being imposed on supply factories in Bangladesh, he stated:

'The 1990 (multinational) buyers only wanted product, no social compliances were required and no restriction was placed on the employment of child labour. Now (multinational) buyers have changed their attitudes towards us, perhaps because of the pressures from western consumers. We had to change ourselves following buyers' requirements and to fit with global requirements and restrictions. Western consumers and human right organisations pressured foreign buyers, and then foreign buyers pressured us' (Islam and Deegan, 2008: 860).

As the above quote emphasises, it appeared that the necessary prerequisite for intervention by the multinational buying companies was the changing demands of western consumers. In time western buyers' concerns about labour conditions in supply factories were raised, and the multinational companies necessarily were required to respond, else risk losing the support of the community.

4. Hypothesis development

Whilst Islam and Deegan (2008) provided evidence that the social and environmental operating and reporting practices of a major clothing export association in a developing country (BGMEA) responded to the pressures exerted by large multinational buying companies, our study steps back a level and explores the factors that appeared to influence the operating and reporting practices of these powerful stakeholders themselves. The view taken in this paper is that the global community's expectations impacted the behaviour of the multinational buying companies, and in turn, the multinational buying companies exerted pressure on suppliers in developing countries to ensure that the behaviour of the suppliers was in accordance with the expectations that were imposed upon the multinational buying companies. In particular, we explore whether there appears to be a link between changes in the multinationals companies' behaviour (in particular changes in their reporting behaviour, and changes imposed on supply companies), and changes in the extent of media coverage directed at labour practices in the multinational companies' supply chains. We do this on the basis of a belief that the media agenda drove changes in the

³ BGMEA is the only government recognised trade body within Bangladesh that represents export oriented garment manufacturers. Only BGMEA members have the legal right within Bangladesh to export clothing. The membership of the association as at the end of April 2006 was 4,220 clothing companies, many of which have significant associations with global buying companies such as H&M and Nike.

expectations of the western consumers – parties upon which the multinational companies were dependent for their survival.

Hence, with legitimacy theory and media agenda setting theory in mind, if the global news media agenda impacts global community concerns for particular issues (from media agenda setting theory), we would expect that the extent and type of corporate social disclosure, in the annual report of a global organisation, will be directly related to the focus and extent of the media attention, with the disclosure reaction lagging behind the media attention.

From the previous discussion we have argued that the multinational companies will react to negative media coverage by undertaking actions which aim to restore their legitimacy. This could involve them not only taking actions to bring their activities, or more particularly, those of their suppliers in line with community expectations, but also making disclosures to highlight the changes made within their supply chain. However, in developing our hypothesis – to be provided below – we need to consider a number of additional issues.

One issue relates to whether we restrict our attention to media coverage that specifically addresses the company, or whether we should consider media coverage addressing the industry as a whole. Our view is that if a particular organisation within an industry is considered to have breached the community's expectations of how it should operate, then this will also have negative implications for other members of the same industry. As Milstein et al. (2002: 160) state:

'Despite the best intentions of some organisations, when a single organisation within an industry violates social and political norms, all organisational actors within the industry may suffer negative consequences as stakeholder anger is broadly applied to a perceived group of similar firms.'

The above view is consistent with Patten (1992) who, whilst not specifically studying media agenda setting effects, did find that various North American oil companies provided a disclosure response to the Exxon Valdez disaster (in Alaska) of 1989 – a disaster that attracted extensive negative media attention. Patten's results indicate that there were increased environmental disclosures by the North American oil companies for the post-1989 period, and the disclosure reaction took place across the industry, even though the incident itself was directly related to one oil company.

The consideration of an industry-wide effect is

also consistent with Brown and Deegan (1998) who found that the social and environmental disclosure practices of management within selected Australian industries was associated with the extent of negative media attention directed towards their industry, rather than specifically aimed at their company. Similar findings were reported in Deegan et al. (2000).

A second issue to consider is whether we should consider relevant media coverage of any nature, or whether we should focus on negative media coverage. Previous research suggests that negative media attention is more likely to have an effect on the public's salience for a particular issue, relative to positive or favourable media coverage (Dearing and Roger, 1996). Prior accounting studies (O'Donovan, 1999; Deegan et al., 2002) have also shown that when there is perceived to be adverse public opinion about particular facets of an organisation, brought about by negative media attention about specific corporations, then reporting media such as the annual report are used by managers in an attempt to bring public opinion back in support of the specific corporations. Hence we will study disclosure reactions to negative media attention.

A third issue to consider is whether we restrict the media that we review to local or global media. Whilst previous studies indicate that managers make disclosure responses to negative media coverage, researchers have limited their analysis to the local news media. By contrast, as we are concentrating on organisations that operate globally and that have large numbers of consumers dispersed throughout the world, we will explore the disclosure reactions of the companies to global media coverage. Coverage of issues by the media on an international basis is expected to impact expectations of the global consumers – particularly for issues of a non-obtrusive nature.

A final issue to consider is the nature of the corporate disclosure response. In particular, we need to consider whether we restrict the analysis to positive corporate social disclosures, or whether we consider all social disclosures. In relation to the nature of the corporate disclosure, our expectation is that corporate managers will utilise positive (or favourable) disclosures in an attempt to bring support back to an organisation in those times when the organisation has been subject to negative media attention – a view consistent with legitimacy theory.⁴

⁴ We acknowledge that restricting our analysis to positive corporate disclosures does restrict our investigation of the nature of corporate disclosure responses. As one of the reviewers of this paper rightly indicated, disclosure responses have the

Having identified that we are reviewing negative media coverage of an industry-wide and global nature, and that we are concentrating on positive corporate disclosures made by the respective organisations, we are now in a position to formally state the central hypothesis of our study, which is:

The higher (lower) the level of negative media coverage directed towards a particular aspect of a global industry's social and environmental performance, the higher (lower) the level of related positive social and environmental performance disclosures made by organisations within that industry.

Apart from the above hypothesis, we will also consider, as a result of our media analysis, whether there is a correspondence between the timing that Islam and Deegan (2008) found that multinational companies put pressures on the suppliers in Bangladesh (and other countries) to improve their workplace practices (which was deemed to occur from the second half of the 1990s), and the timing when the multinational companies appeared to be the subject of increased negative global media coverage in relation to supplier workplace practices. If the agenda setting effect of the media is a factor then we will expect to find heightened media attention aimed at the use of child labour and labour practices in the second half of the 1990s, and a general absence of such media attention prior to the mid-1990s.

5. Research methods

Corporations have a number of vehicles available to make disclosures, including annual reports, special purpose social and environmental reports, sustainability reports, web-based disclosures, media-based advertisements, and so forth. We elected to review one medium of reporting that was constant throughout the period of analysis, this being the annual report. Because of the period of our analysis, which commences in 1988, we were unable to review social and environmental reports, or sustainability reports, because such reports, as we know them, did not exist in the early years of our analysis. Further, because of the nature of web-based disclosures, which typically do not provide access to previous period's disclosures, it is difficult to gain a perception of the changes in disclosure across time. Also, web-based disclosures did not exist in the early

periods of our analysis. Hence, because we wanted to review a medium of disclosure that was used throughout the period of analysis, we restricted our analysis of corporate disclosures to the annual report. We acknowledge that this only provides a subset of the total disclosure being made and we also acknowledge that our decision to exclude other avenues of disclosure acts to introduce a bias against us finding significant results. Even though the annual report is only one medium in which corporations can make disclosures, annual reports are nevertheless reviewed by a broad cross-section of the community. They are also considered to be an important document for managers seeking to shape their organisations' own 'social imagery' (Gray et al., 1995).

Nineteen annual reports released by each of H&M and Nike from 1988 to 2006 (19 years of annual reports) were collected. Various sources were used to obtain the reports including the Corporate Library of the London Business School, Swedish Companies Registration Office, Thomson Corporation, and company websites. In analysing the annual reports it was necessary to classify the disclosures into various categories of social and environmental disclosure. It was also necessary to adopt a basis of measurement for the disclosure.

In relation to classifying the disclosures, the content analysis instrument used by Hackston and Milne (1996) was utilised with adaptations. The content classifications of Hackston and Milne (1996) which are based on the earlier schemes developed by Ernst & Ernst (1978), Guthrie (1982) and Gray et al. (1995) broadly embraced six categories of disclosure, these being: environment, energy, human resources, product, community involvement, and others. Within these broad themes, further specific categories are incorporated. Additional issues – these being improvement of working conditions, child labour elimination, and other human right issues associated with the subcontracting relationship with the manufacturers in developing countries – were added to the human resource category. The reason for the inclusion of these issues is that these issues are believed to be key corporate social performance indicators for global companies that source product from manufacturers operating within developing countries. During the coding process we were also open to creating additional categories should it become apparent that other specific areas were the focus of corporate disclosure, or media attention. Appendix 1 provides a summary of the classification scheme used in this research.

As we indicated in the section devoted to

potential to be more complex than we have predicted. For example, admitting mistakes or bad actions (that is, disclosing bad news) may in itself be part of a 'trust-building' exercise. Our results need to be considered in light of our exclusive focus on positive corporate disclosure responses.

hypothesis development, our research focuses on positive social and environmental disclosures within the annual report. Consistent with Deegan and Gordon (1996), positive disclosures are defined as disclosures of information about corporate social or environmental activities or performance which present the organisation in a positive light and which reflect a positive or beneficial impact upon society or the environment (or both).

The extent of disclosure was measured by the number of words. Number of words has commonly been used in previous social and environmental disclosure research. Further, measures, such as words, have been found to be highly correlated with other measures, such as sentences, or percentage of pages dedicated to particular disclosures (Hackston and Milne, 1996).

The same classification scheme discussed above was also used to classify the content of media articles. While different companies have different reporting dates (Nike, 31 May; H&M, 30 November), in order to maintain consistency, we considered media pressures towards each company for the year ending 31 December, 5 months before Nike's reporting date, and 11 months before H&M's reporting date.⁵ We accept a time lag between the calendar year (for media pressure) and the respective company's reporting date given that previous studies show that there is a lagged effect between media coverage, changes in community expectations, and ultimately, changes in corporate operating and disclosure policies.

Media pressure is measured by the number of relevant negative media articles in the international newspaper and press media. Consistent with Hogner (1982) and Brown and Deegan (1998), negative (unfavourable) media articles are defined as those articles which contain information about the activities of the company or industry which indicate that the operations/strategies of the company/industry are detrimental to the societies or environments in which the company and industry operate.

Newspaper and press coverage of social issues recorded in high profile international media which address the clothing and sports retail industry over the period 1987–2005 were identified. We specifically searched for articles mentioning the clothing and retail sports industry in the 'Industry Name/subject' of the Dow Jones Factiva search menu. We also included the subject words 'Child Labor',

'Community', 'Corporate Social Responsibility', 'Human Rights', 'Poverty', 'Product Safety', 'Social Issues', 'Sweatshop', 'Welfare', 'Workplace Safety', 'Environmental', and 'Sustainable Development'.

The search produced a large volume of data. The abstract of each article was examined for stories concerning any of our general categories. As a next step, we reviewed each article for specific content relating to any of the specific categories. That is, once we identified articles that contained a general discussion of social issues, we reread each article to identify the specific issues mentioned. Some articles appeared in more than one newspaper within our sample of newspapers. Such articles were given multiple scores on the basis of a view that multiple articles are likely to have a greater agenda setting effect.

To enable a consistent comparison across the years 1987–2005, this study selected only those newspapers and presses within the Factiva Data Base which were available in the database for all of the sample years (January 1987 to December 2005). We reviewed the following leading global newspapers: *USA Today*, *The Washington Post*, *The New York Times*, *The Wall Street Journal* (USA, Europe and Asia), *The Guardian*, *The Times*, *Financial Times*, *The International Herald Tribune*, *The Sun*, and presses including *Reuters News*, *Dow Jones International News*, and *Agence France Presse*. Obviously our sample of media represents only a small subset of the total newspapers and press services operating internationally. Nevertheless, the newspapers and press services that we have selected are read by hundreds of millions of people internationally and their contents would be reviewed by other journalists working for other newspapers and media services. Further, the newspapers appear to be aimed at a reasonably diverse readership. Hence, whilst there is limited guidance in the literature as to how to select particular newspapers if we are to consider the 'global media', we believe that the newspapers we have selected would reasonably be considered to have the 'reach' to create media agenda setting affects. Further, as we use the same sample of newspapers and presses for the period of our analysis we are well placed to understand the trends in media coverage given to particular social and environmental issues (and to relate these changes to changes in corporate disclosures). We have not controlled for the possibility that different newspapers or presses appeal to different audiences, or the possibility that they will have different impacts on the public agenda. We have also not controlled for the fact that different newspapers may have different political positions or

⁵ However, the annual reports would not be completed for a period of time following the reporting date, hence lengthening the period of time between 31 December and the reporting date.

goals, or different views about the role of organisations with respect to the environment or society. Our results need to be considered in this light. Nevertheless, it is proposed that our selection includes an adequate number of newspapers in countries in which major global clothing and retail companies operate and provides a reasonable indication of the extent and variation of media attention being devoted to specific social and environmental issues.

Turning our attention to how we classified and measured the extent of media coverage, each media article was classified into the same specific subcategories used to classify the corporate disclosures (see Appendix 1) and each article was given a score of 1. That is, we did not attempt to differentially weight the sources of different articles thereby implicitly assuming that all news media had the same perceived ability to impact global community expectations. Again, there is limited guidance in this area and our results need to be considered in this light. Nevertheless, we again emphasise that all of the papers and press services we reviewed had extensive readerships.

Lastly, the choice of time period from 1987–1988 to 2005–2006 (19 years) allows sufficient time to see how changes in levels of media attention appeared to influence levels of disclosure. It is also relatively consistent with the time period used in previous social and environmental accounting research (for example, see Deegan et al., 2002; Islam and Deegan, 2008).

6. Results

We commence the discussion of the results with descriptive information about the extent of media coverage found within the period of our study. Table 1 provides information about the number of negative media articles addressing the clothing and sporting goods industry. In total, there were 712 negative media articles pertaining to the industry of which 81% of the articles addressed issues associated with human resources (577 articles from a total of 712). Within the Human Resource category, the issue attracting the most media attention – approximately 70% of the total of the negative articles (495 of 712 negative articles) – was employee practices adopted within developing countries. This 70% is further subdivided. Issues associated with poor working environments within developing countries accounted for approximately 50% of the total media articles (350 of 712 negative media articles), whereas the use of child labour in developing countries accounted for 20% of the total articles (145 of 712 negative media articles). Apart from the

human resource issues associated with developing countries, approximately 11% of the total articles (82 of 712 negative media articles) addressed domestic human resource issues associated with the respective companies (inclusive of job cutting and discrimination issues). Energy issues did not attract any media attention within the period of analysis. Twenty six out of the 712 negative articles in the analysis mentioned product related issues, and 58 and 50 negative articles mentioned environmental, and community involvement issues, respectively.

Whilst it is not our intention to provide detailed descriptions of the contents of the various articles (beyond our summarised classification data) it is nevertheless useful to put the nature of the coverage into context. The articles frequently used emotive terms and language to describe the nature of the employment practices being adopted in the factories supplying the products to the multinational companies. The emotive nature of the articles would arguably contribute to the legitimacy-threatening potential of the media coverage. Words such as ‘abusive’, ‘exploitation’, ‘forced child labour’, ‘sexual harassment’, and ‘sweatshops’ were frequently used. For example, in relation to the use of the term ‘sweatshop’ the following are a sample of some of the headlines across our period of analysis:

- ‘US drive to boycott sweatshop clothing’, *The Times*, 27 December 1996.
- ‘Clinton plan to eliminate sweatshops in apparel industry called too weak’, *The Wall Street Journal*, 15 April 1997.
- ‘The foul smell of soccer’s sweatshop child labourers’, *The Guardian*, 12 May 1997.
- ‘Clothing, sneaker makers take limited steps on sweatshops’, *Dow Jones News*, 16 June 1999.
- ‘Labor groups join coalition to eliminate sweatshops’, *The New York Times*, 8 August 2001.
- ‘Adidas sweats over third world subcontractors sweatshops’, *Dow Jones International News*, 23 September 2002.
- ‘Sportswear firms to investigate Oxfam sweatshop claims’, *The Guardian*, 4 March 2004.

Turning back to the review of Table 1, issues associated with poor working conditions in developing countries appeared to peak in the latter half of the 1990s. Consistent with this finding, related research in Islam and Deegan (2008) – as previously discussed – reported that executives of the major clothing export association within Bangladesh (BGMEA) believed that it was not until the mid-to late-1990s that large multinational buying companies started imposing pressure on supply

Table 1
Negative media coverage (unfavourable media articles) addressing the clothing and sporting goods industry

Year	Issue of human resources			Product issue (all countries)	Issue of community (all countries)	Other (all countries)	Total
	Issue of environment (all countries)	Domestic human resource issues within the respective companies (not within developing countries)	Manufacturing work- ing conditions (in developing countries)				
			Use of child labour (in developing countries)				
1987	0	2	0	0	0	0	2
1988	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0
1990	1	2	1	0	0	0	5
1991	0	3	2	0	0	0	7
1992	0	4	5	0	0	0	14
1993	0	5	2	0	0	0	11
1994	0	2	3	0	1	1	14
1995	1	5	9	0	0	0	31
1996	0	0	34	0	1	0	64
1997	3	0	83	0	3	0	121
1998	0	2	63	0	4	0	80
1999	2	1	30	1	3	0	41
2000	6	0	17	3	3	0	37
2001	5	1	21	7	0	0	35
2002	11	5	9	4	3	0	32
2003	14	4	13	2	14	0	47
2004	8	27	26	4	12	0	85
2005	7	19	26	5	6	0	86
Total	58	82	350	26	50	1	712

Table 2
Correlation by theme between industry-related media articles and corporate social disclosures (1988–2005) (Spearman rank-order correlation coefficients)

<i>General themes</i>	<i>H&M</i>	<i>Nike</i>
Total	+0.835 (p=.001)	+0.746 (p=.001)
Environment	+0.804 (p=.001)	+0.152 (p=.263)
Energy	–	–
Human resources	+0.657 (p=.001)	+0.699 (p=.0005)
Product	+0.832 (p=.001)	+0.203 (p=.203)
Community	+0.739 (p=.001)	+0.445 (p=.026)
Others	+0.320 (p=.091)	–0.211 (p=.183)

factories to improve their employee practices and to embrace actions to eliminate child labour, as well as requiring BGMEA to provide disclosures to report the changing labour practices. This was perceived by BGMEA executives to be because of the negative media attention being directed at large multinational buying companies in relation to poor labour conditions in developing countries. Our results confirm that the industry was indeed subject to extensive negative media attention at that time for poor working conditions and the use of child labour in developing countries. Our results also confirm that prior to the mid-1990s there were only a limited number of articles that were critical of supply factory labour practices. This is consistent with the early absence of labour practice-related pressure from multinational companies, as identified by the BGMEA officials in the Islam and Deegan (2008) study.

The results for the testing of our hypothesis are produced in Tables 2 and 3. Table 2 documents the correlations between negative media articles (by number of articles) and positive annual report disclosures (by words) by *total* social and environmental disclosure in each respective year, and separately by each of the six main themes of disclosure over the 19-year review period.

Table 2 shows that the correlation between the total number of social disclosures (words) over 19 years of the study, and the number of negative media articles in the same years are statistically significant (the first row of Table 2).⁶ Table 2 also presents results of tests for correlation across 19 years for each general theme. The results for 'human resource' and 'community' produced statistically significant positive correlations for both companies investigated. The themes of 'product', 'environment' and 'others' produced significant positive correlations for H&M only. Energy did not produce

any results for either of the companies investigated because of zero media attention (which was also accompanied by low levels of disclosure).

As shown in Table 3, a further measure of correlation was calculated for nine specific themes. These nine specific themes were those issues that attracted the greatest amount (98%) of the negative media attention. These nine specific themes, which also represented the issues responsible for the greatest proportion of social and environmental disclosure, accounted for 14,328 words for H&M (or 92% of H&M's total social disclosures across the period) and 8,376 words of disclosure for Nike (93% of Nike's total social disclosures).

A significant positive correlation was obtained for eight out of nine specific themes for H&M. Significant positive correlations were also generated for four specific themes within Nike. Again, for the two issues attracting the most negative media attention – working conditions in developing countries, and the use of child labour in developing countries (which together attracted 70% of the total negative media attention) – the related correlations in both companies were positive and significant indicating that the relatively high levels of negative media attention devoted to these two specific issues did appear to evoke a disclosure reaction whereby the organisations made related positive disclosures in an apparent effort to counteract the impacts of the negative media coverage. The specific theme that attracted the third highest amount of negative media attention after working conditions in developing countries and child labour was (see Table 1) human resource issues in the domestic country (relating to such issues as domestic retrenchments, training, job safety, and job discrimination issues). This issue failed to generate significant results. However, a mitigating factor here was that there was minimal variation in related media attention until the last two years of our study, at which point the media attention grew (see Table 1), as did the related corporate disclosures. Hence, whilst both media

⁶ A p. value of 0.10 or less is deemed to represent a significant finding for the purpose of our analysis.

Table 3
Correlation by specific theme between the media articles by industry and social disclosure made by specific theme (1988–2005) (Spearman rank-order correlation coefficients)

<i>Specific themes</i>	<i>H&M</i>	<i>Nike</i>
<i>Environment</i>		
Pollution reductions in the conduct of business operations	+ .889 (p=.000)	+ .350 (p=.077)
Compliance with environmental standard and regulation	+ .850 (p=.000)	– .228 (p=.172)
<i>Human resources</i>		
Home based human resources – domestic	– .038 (p=.433)	– .190 (p=.213)
Working conditions – developing countries	+ .699 (p=.000)	+ .671 (p=.001)
Elimination of child labour – developing countries	+ .534 (p=.0019)	+ .559 (p=.006)
<i>Product</i>		
Product research and development	+ .80 (p=.000)	+ .124 (p=.306)
<i>Community</i>		
Donation and community support activities	+ .419 (p=.035)	+ .540 (p=.009)
Community health supports	+ .684 (p=.000)	–
Community education supports	+ .566 (p=.006)	–

attention and corporate disclosures fluctuated at a relatively high level in the last two years of our study for domestic human resource issues, no significant results were generated for these issues because of the low levels of variation in the previous 17 years of analysis.

Out of 16 correlations identified for 9 specific issues for two companies, 12 correlations were statistically significant. Hence, there was general support for our hypothesis.

7. Concluding remarks

This study examines the relationship between the amount of negative media attention directed towards the social responsibility performance of two major global clothing and sports retail companies (H&M and Nike) and their industry, and their level of annual report social disclosures over a 19-year period. In doing so, the study sought to determine if the pattern of the organisations' social and environmental disclosure can be explained by a joint consideration of media agenda setting theory and legitimacy theory. Relative to previous research, we utilised a measure of international media attention, rather than restricting the analysis to media attention within the respective corporation's 'home country'.

The results of our paper are generally supportive of our hypothesis. For those topics that generated the greatest amount of negative global media attention – and these topics related to working conditions and the use of child labour in developing countries – the results were supportive of the hypothesis. The results thereby provided insights

into the drivers behind corporate disclosures as they relate to operations within developing countries – an area in which there is very little published research.

Whilst eight of the nine correlations reported in Table 3 were significant for H&M (the only insignificant finding related to domestic human resource issues), thereby providing strong support for our hypothesis, only four correlations were significant for Nike. However, for Nike, the most significant correlations were generated for the use of child labour in developing countries, and working conditions in developing countries – the two social performance issues attracting the greatest amount of negative media attention. Whilst the following is speculation, it is arguable that because a great deal of the negative media attention in relation to developing countries was particularly focused on Nike, the management of Nike might have believed there was a necessity to focus their legitimising disclosures on a restricted set of social performance issues, and particularly, to focus legitimising disclosures on labour issues in developing countries. However, again, this is speculation but is an issue worthy of further research – perhaps there are thresholds of media attention beyond which media attention to other issues becomes less important in relation to current legitimising efforts? Clearly, the media attention at the time was primarily focused on employee-related issues in supply factories in developing countries and this attention is associated with a subsequent increase in related disclosures consistent with a joint consideration of both media agenda setting theory and legitimacy theory.

In providing concluding comments to this paper it is also useful to consider the results of this paper in conjunction with the results of Islam and Deegan (2008) – a paper that we have already made a number of references to. As we have already indicated, Islam and Deegan (2008) investigated the operating and reporting practices of a major garments exporting association located within Bangladesh (BGMEA), and they documented that the management of BGMEA directly responded to the pressures exerted by multinational buying companies. Whilst Islam and Deegan (2008) provided evidence that the social and environmental operating and reporting practices of BGMEA responded to the pressures exerted by large multinational buying companies, this paper has contributed to the literature by stepping back and exploring the factors that appeared to influence the operating and reporting practices of these powerful stakeholders themselves. Indeed, this paper has demonstrated that large multinational corporations with supply chains linked to developing countries appear to respond to adverse media attention by subsequently producing greater levels of positive social disclosures – particularly in relation to those issues attracting the greatest amount of negative media attention. The timing of the increased media attention pertaining to child labour and working conditions in developing countries, as documented in this paper, also ties in with the timing of when Islam and Deegan (2008) document that BGMEA managers were under pressure by the multinational companies to ensure that the Bangladeshi suppliers improve their workplace practices.

Hence, with the results of this study and the previous work of Islam and Deegan (2008) in mind, we can argue that for unobtrusive events, it is the media's focus on large multinational companies and their industry that is the potential catalyst for multinational companies requiring suppliers in developing countries to change their employment practices. In this regard, we can question, for example, whether Nike would have changed its own social reporting practices (and these changed significantly towards the end of the 1990s), or closely monitored the employment policies of companies in its supply chain, had the media not made the industry, and particularly the company, the focus of a negative media campaign in the 1990s. Consistent with this view, Islam and Deegan (2008) reported that senior executives in BGMEA explicitly stated that prior to the mid-1990s (a time when there was minimal media attention), multinational buying companies typically failed to place any requirements on supply

factories in relation to child labour, or other workplace practices. The general lack of global media attention in relation to labour practices in developing countries, as reported in this paper, provides a potential explanation for the absence of pressure being exerted on supply factories by the multinational buying companies.

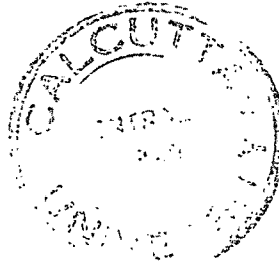
Our results, which were generated by using secondary data, are consistent with the corporations making a disclosure response to the media agenda. We acknowledge that our perspective that the focus and extent of media coverage influences community expectations, and these changing expectations in turn influence corporate annual report disclosure is perhaps somewhat mechanistic, but it does nevertheless provide some useful insights about the role of the media in creating change. As we also noted earlier in the paper, we also acknowledge that we have relied upon only a small subset of international papers and presses as our basis for measuring the extent of media attention directed at particular issues, albeit that these media and presses would be read by hundreds of millions of people internationally. These papers and presses will potentially appeal to different audiences, have different political or social agendas, and have varying levels of impact on the public agenda. Whilst there is limited guidance in the literature about how to deal with such considerations, our results must nevertheless be considered in light of the fact that we have equally weighted each media article from each of these sources. Further, although we have focused on media attention as being the factor ultimately driving the corporate disclosure reaction, clearly there could be a variety of other factors that influence managers' corporate social disclosure choice as it relates to operations within developing countries. Also, there could be a variety of media in which managers make disclosures in reaction to perceived legitimacy threats. Further useful and richer insights would be derived by undertaking direct interviews with executives from the multinational companies in question. With this, and the suggestions of a reviewer of this journal in mind, we sought to arrange a number of interviews. However, despite a number of attempts, we were unsuccessful in obtaining the agreement of senior executives⁷ from either Nike or H&M to participate in an

⁷ However, H&M agreed to provide us with access to 'two field level managers' in Bangladesh for the purpose of conducting an interview. While these managers noted that they were unaware of the exact motivations for H&M's strategic disclosure decisions, they did provide an opinion that from their knowledge of the industry it was a necessity for their organisation to respond to the changing concerns of western consumers. They believed that western consumers react

interview.⁸ Despite our lack of success we would encourage other researchers to pursue this avenue of research to further build our understanding of the social disclosure practices adopted by multinational companies sourcing products from developing countries.

Although the media might be effective in ultimately causing changes in a company's operating and reporting policies, as well as those organisations in the supply chain, an issue that we have not investigated is what factors impact the media's own agenda. That is, we have not considered the factors that cause the media to focus on particular issues in preference to others. For example, what made the news media focus on child labour and poor working conditions in the 1990s when child labour abuses and poor working conditions are now known to have existed long before that time? Obviously, the media needs to be made aware of particular issues in the first place. For issues associated with social and environmental performance it is conceivable that various social and environment-based non-governmental organ-

isations (NGOs) are active in highlighting to various media outlets particular issues of concern. In this regard it would seem that the media would be an important ally for NGOs in their quests to create change, however this does raise various issues about the need for the media to be objective. If we are to accept the sequence of events depicted above, then clearly the media is a very powerful player in creating changes in corporate social and environmental performance and associated reporting. Parties wishing to create change in other organisations, particularly in relation to unobtrusive events, will conceivably need to consider co-opting the media as part of any strategy to create broad changes in other organisations' or industries' operating practices. In this regard, the authors of this paper are currently engaged in a research project that investigates how NGOs, particularly those operating in a developing country, use the news media as part of a strategy to create change in the operating policies and associated accountability of multinational companies. We hope to provide these insights in the near future.



strongly against multinational corporations when articles about child labour or worker exploitation are published in the western press. As part of their role in H&M they were required to help ensure that supply factories did not use child labour and that they respected the rights of the workers to fair treatment and a safe working environment.

⁸ However, we nevertheless have the insights provided by O'Donovan (1999), who based on interview data, showed that large multinational companies did make disclosure and operational reactions in response to sustained negative media attention.

Appendix 1

Summary of the classification of social and environmental disclosure

A. Environment

- Statement of pollution reductions in the conduct of business operations;
- Demonstrating compliance with environmental standard and regulation;
- Designing facilities harmonious with the environment;
- Wildlife conservation; and
- Training employees in environmental issues.

B. Energy

- Using energy more efficiently during the manufacturing process;
- Utilising waste materials for energy production; and
- Discussing the company's efforts to reduce energy consumption.

C. Human resources

Home-based human resources – domestic

- Ensuring employee health and safety in home country;
- Providing assistance for treatment of occupational illness;
- Providing training for employees on health and safety;
- Eliminating discrimination at work place;
- Giving financial assistance to employees in educational institutions or continuing education courses;
- Providing assistance or guidance to employees who are in the process of retiring or who have been made redundant;
- Disclosing workers' compensation arrangements;
- Providing the number of employees in the company;
- Providing details of employee profiles;
- Expressing appreciation or recognition of the employees;
- Providing information on the stability of the workers' jobs and the company's future;
- Providing information on the availability of a separate employee report;
- Providing information about any awards for effective communication with employees;
- Reporting on the company's relationship with trade unions and/or workers;
- Reporting on agreements reached for pay and other conditions;
- Reporting on any strikes, industrial action/activities and the resultant losses in terms of time and productivity; and
- Providing information on how industrial action was reduced/negotiated.

Manufacturing working conditions – developing countries

- Providing general information about working conditions and relationship with suppliers and associates;
- Declaring sweatshop-free work environments in supplier's or associate's factories;
- Disclosing accident statistics at manufacturing plants;
- Disclosing non-compliance with health and safety law;
- Providing information about commitments that organisation does not use physical and mental punishment;
- Identification of suppliers and associates who employ poor and vulnerable women in third world countries;
- Providing information on the right to collective bargaining and freedom of association under International Labour Organisation (ILO) convention;
- Information about support for day-care, maternity and paternity leave;
- Information of working hours that must comply with applicable laws;
- Appreciation or recognition of the associates and suppliers who improve working conditions in their factories;
- Providing wages which must be sufficient to meet the basic needs of workers and their families;



Appendix 1

Summary of the classification of social and environmental disclosure (continued)

- Information about support for day care and maternity leave; and
- Effective auditing system to ensure that workers are working in humane conditions.

Elimination of child labour – developing countries

- Declaring suppliers' policy regarding minimum age requirement of employment;
- Declaring child and forced-labour-free factory premises by applying ILO convention;
- Giving financial and other support to help former child labour victims in school;
- Effective auditing system to ensure that suppliers are not using child labour; and
- Policy regarding penalty and sanctions for non-compliance with child labour policy.

D. Products

- Product research and development by the company to improve its products in terms of quality and safety; and
- Information on the quality of the firm's products as reflected in prizes/awards received.

E. Community involvement

- Donations and community support activities;
- Community health projects and aiding medical research;
- Establishing educational institutions, funding scholarship programmes and sponsoring educational conferences, seminars or art exhibitions;
- Other special community-related activities, e.g. providing civic amenities, supporting town planning;
- Supporting national pride/government sponsored campaigns; and
- Recognising local and indigenous communities.

F. Others

- Corporate objectives/policies: general disclosure of corporate objectives/policies relating to the social responsibility of the company to the various segments of society; disclosing corporate governance practices.

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The social scientific turn in UK financial accounting research: a philosophical and sociological analysis

Brian A. Rutherford*

Abstract — The demise of the classical programme of financial accounting research is generally represented as a progressive development. This paper argues that the academy's abandonment of classical methods was justified neither by the fruitfulness of post-classical programmes nor by their incontestable epistemological superiority. Rather, what occurred was a turn to mainstream social science, reflecting sociological characteristics of the UK financial accounting research community. The paper concludes with a call for a revival of the classical programme.

Keywords: classical accounting research; epistemology; history of accounting research; sociology of accounting research

1. Introduction

In the opening words of an introductory text on the subject, 'there is nearly universal agreement that science [that is, natural science] is a progressive discipline' (Losee, 2004: 1). Depictions of the history of financial accounting research, too, are typically cast in progressive terms, often taking it for granted that the discipline is a social science, at any rate in its scholarly mode (Beattie, 2005: 87; Riahi-Belkaoui, 2004: 40).

In this paper I suggest a different perspective. I argue that the move from 'classical approaches to addressing questions' and 'traditional normative research' (Zeff, 1989: 171) to contemporary programmes, such as neo-empiricism (Henderson et al., 1992) and the various 'ways of seeing' (Roslender, 1996: 542) embodied in radical research, marks a rupture in the discipline. That the UK financial accounting research community now draws its methods almost exclusively from the mainstream social sciences, and that 'academics have largely disengaged from traditional normative theorising in relation to financial statements' (Beattie, 2005: 93), is not in dispute, but I argue that financial accounting research is social scientific *tout court*, not because it was always so, and moving progressively towards its current level of sophistication, but because the academy broke with

its past and made a turn to mainstream social science.¹

If we follow Reiter and Williams (2002: 575) in taking progress in scholarship to be 'defined as innovation and relevance', the adoption of the methods of mainstream social science would be progressive if the bounty of innovative and relevant findings accruing from the new approaches substantially exceeded that from classical research in the phase before its abandonment. Alternatively, the move might be seen as progressive if the epistemological position of the classical programme had been demonstrated to be fundamentally flawed.² However, I argue that neither of these conditions is satisfied. It is important to emphasise that I am not arguing that contemporary programmes are invalid in their own terms but only that their results do not justify the abandonment of the classical programme – that its abandonment did not represent a progressive move but rather a turn to new forms of inquiry.

If it was not a progressive move, why did the turn to mainstream social science come about?

¹ It could reasonably be argued that, since financial accounting is a form of social practice and financial accounting research, and probably even financial accounting practice, should aspire to be scientific, financial accounting is a social science. Classical accounting research certainly borrowed – and adapted for its own use – ideas from economics. The argument of this paper relates to the adoption by financial accounting researchers of the methods of the mainstream social sciences (particularly economics and sociology) rather than merely the importation of their ideas modified for the particular demands of research into financial reporting systems. In the interests of brevity, however, I do not always include the term 'mainstream'.

² It is not suggested that epistemology is a matter of choice or that research should be defended by reference to epistemology but only that fundamental flaws in the epistemological position of a programme would constitute grounds for moving on.

*The author is Emeritus Professor of Accounting at Kent Business School, University of Kent. He is grateful to two anonymous referees and the editor for their helpful suggestions on previous drafts.

Correspondence should be addressed to: Professor BA Rutherford, Kent Business School, University of Kent, Canterbury, Kent, CT2 7PE, UK. Tel: 01227 827726. Fax: 01227 761187. E-mail: b.a.rutherford@kent.ac.uk.

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Discussing the development of one branch of neo-empiricism in the USA, Whitley (1988: 631) has argued that 'doubts about the epistemological and practical value of "positive accounting theory" lead to an alternative, sociological, explanation of its growth and institutionalisation'. I suggest that doubts about the progressive nature of the transition to contemporary modes of research in general argue for a sociological explanation of this wider phenomenon and I sketch out the beginnings of such an explanation.

The paper's contribution to the literature is fourfold. First, it argues that two decades of UK neo-empirical research since the turn to social science have not resulted in the refinement of classical theory that Whittington (1986) held out hope for. Rather, Chambers (1990) and Sterling (1990) were right that neo-empiricism represented an abandonment of the classical programme's objects of inquiry. Further, work on the new objects of inquiry has achieved limited success. Second, it draws attention to the radical programme's similar concern with objects of inquiry other than those of the classical programme – and its equally limited success. Third, it argues that the turn to social science requires a sociological explanation and begins the development of such an explanation. Finally, in the light of the circumstances in which the classical programme was abandoned, it calls for a revival of the programme.

The paper follows the lines of the argument set out above. The next section examines the orthodoxy of the transition to contemporary modes of research, demonstrating its claim to progressiveness. The following sections discuss the fruitfulness of the two major contemporary programmes and the epistemological position of the classical programme. Next, the turn to mainstream social science is plotted in terms of the objects of inquiry for financial accounting research. A sociological account of the forces that brought the turn about is then sketched. The final section discusses the implications of the arguments for the future of scholarly financial accounting research.

My primary focus is on the UK research community. However, it is impossible to disentangle epistemological and sociological developments in the UK from those in the USA because of the intimate relationship between the two communities (Beattie, 2002: 95; Whittington, 1981a: 24). This is especially so in the case of neo-empiricism, where there is a strong tendency for the UK to follow the USA – indeed to 'replicate ... the thrust of US studies' (Beattie, 2005: 97). Sociologically, the case of the UK is perhaps of more interest, partly because

neo-empiricism was resisted for longer and partly because the UK has adopted a more epistemologically tolerant attitude, while nonetheless fully embracing the social scientific turn.

2. The orthodoxy of the transition to contemporary modes of research

Beattie's (2002) widely drawn outline of the history of financial accounting research exemplifies the orthodoxy of the transition to contemporary programmes. It focuses on the UK context (Ryan et al., 2002: 1) while reflecting the powerful influence of the USA. Where it overlaps with Whittington's earlier historical sketch (Whittington, 1986) it follows much the same approach.

Beattie begins by explaining that 'financial accounting research has gone through a number of distinct phases' (2002: 94). Early phases involved 'attempting to generalise about the principles underlying observed practices' (2002: 100), followed by the search for 'a measure of "true income"' (2002: 101). She then suggests that 'these different approaches began to converge after the Second World War' (2002: 100). This represents a claim of 'progress as incorporation' (Losee, 2004: 5). As a result, and here she calls on Nelson's much-employed encomium, 'the decade of the 1960s was a golden age in the history of a priori research in accounting' (Nelson, 1973: 4).³ The next phase was stimulated by a development in accounting practice, namely increased attention to standard setting, which triggered a search for 'ways of selecting among the alternative income determination models which had been developed by a priori accounting researchers' (Beattie, 2002: 102). The approach favoured during this phase was decision usefulness: shareholders were held to need information about future cash flows and 'the financial statements with the greatest predictive ability would best meet the information needs of shareholders, and choices between alternative accounting methods could be based on an assessment of their effects on predictive ability' (2002: 102).

Beattie's characterisation of the adoption of decision usefulness has a progressive tone: it 'succeeded in moving accounting research away from the search for "true income"' (2002: 101). Elsewhere (Beattie, 2005) she has described the

³ An a priori concept, statement or judgment is one held prior to experience. Nelson explicitly disclaimed credit for introducing the phrase 'a priori research' into the debate; this was done, apparently, by the organisers of the conference to which he was contributing, who did not define it but provided some examples (Nelson, 1973: 3), namely works by Chambers (1966), Edwards and Bell (1961), Sterling (1970) and Ijiri (1967).

rejection of 'true income' theory in terms which suggest that it was the result of anomalies arising under the theory:

'Gradually, however, the limitations of the income model became increasingly apparent. It was unable to offer guidance on the appropriate accounting treatment of thorny accounting issues such as pensions and goodwill' (2005: 88).⁴

The elimination of anomalies is a common test of progressiveness in natural science (Losee, 2004: 157). Whittington's earlier outline also suggests that the transition from the golden age was progressive:

'There was disillusionment with the grand a priori theorising of the 1960s ... It was felt that the way to resolve such a debate was by resort to empirical evidence, to establish which theories had the most realistic assumptions or the greatest capacity to predict observed events' (Whittington, 1986: 24).

While the 1960s may have marked the high point of a priori research in the USA,⁵ a priori income theory continued to flourish in the UK into the 1970s. Indeed, it was 'central to the UK research effort' (Beattie, 2002: 98) during this period of rapid growth in the British academic accounting community. Whittington's 1981 survey of the British contribution to income theory traces its development through the 1970s, explicitly limiting the account to a priori theorising (Whittington, 1981a: 1), and concludes that, 'it seems likely that a flow measure, or measures, analogous to income will play an important role in the *theory* and practice of financial accounting for a considerable time to come' (1981a: 24, emphasis added).

Unfortunately decision usefulness 'did not succeed in providing the logical basis for accounting choices which its advocates had hoped for' (Beattie, 2002: 102). Beattie nonetheless credits it with progressive consequences because it 'stimulated two principal types of empirical study' (2002: 103) which constitute the next phase of research. 'These continue to be undertaken today, and one, market-based research, constitutes the largest area of 'conventional' financial accounting research in the UK today (Beattie, 2005, Table 2).⁶ Moreover, contemporary UK researchers have largely with-

drawn from traditional financial accounting theorising (Beattie, 2005: 93). Hence it would seem reasonable to characterise this phase as the beginning of modern research in financial accounting.

One approach described by Beattie is the 'positive accounting theory' associated mainly with the USA (2002: 106–109). This is 'a particularly extreme form of empiricism' whose 'advocates ... distance themselves as far as possible from the normative methodologies of the a priori theorists' (106). Although Beattie treats it separately from market-based research, the work of this school is strongly bound up in the emergence of the new wave of empiricism and Whittington (1986: 25–27) explicitly includes it within a broader classification of empirical research referred to in this paper as neo-empiricism (Henderson et al., 1992). The neo-empiricist programme emerging in the USA in the late 1960s rapidly achieved hegemonic status in that country (Reiter and Williams, 2002) and orthodox accounts of US historical developments (Beaver, 1998; Scott, 2003; Wells, 1976) naturally regard the move as progression in the form of revolutionary overthrow (Losee, 2004: 157).

The way in which Beattie (2002) contrasts golden age theorists and modern empiricists has distinctly progressive overtones: 'the a priori researchers conducted no formal testing of their deductively derived conclusions ... the empirical researchers, however, formally tested their hypotheses' (2002: 106), a description which, read in the context of orthodox accounts of scientific method, would certainly indicate an advance. Further, in Beattie's view empiricism has been 'very productive' (2002: 112) and she concludes that contemporary conventional accounting research 'is now a more balanced combination of theory and empirical analysis', representing 'a new level of maturity' (2002: 112). Her account of conventional financial accounting research concludes by welcoming an 'important recent trend' which has seen 'the coming together of, arguably the best of' several perspectives (progress as incorporation), namely a 'return to the measurement perspective' as exemplified by residual income valuation modelling (2002: 109).

Beattie also discusses the principal contemporary alternative to neo-empiricism, which I will refer to as the radical accounting research programme.⁷ This responds to 'calls for researchers to study the

⁴ The title of this article tells us that its subject is the UK's contribution to 'moving the financial accounting research front forward', an apparently progressive claim.

⁵ Although one of the most distinguished was Australian, most of the theorists involved were American (Gaffikin, 1988).

⁶ The term 'conventional' is used in the source to exclude 'research grounded in critical perspectives' (Beattie, 2005: 86, note 1).

⁷ Beattie mainly uses the terms 'interdisciplinary perspectives' and 'critical accounting research' (2002: 110, for example) although she does also refer to 'radical' (110) studies. Other advocates of the approach use the term 'radical' (see, for example, Chua, 1986). I have adopted a single 'catch-all' term merely in the interests of brevity.

social nature of accounting and, in particular, to examine the role of financial reporting in its economic, social and political contexts' rather than base research on 'an acceptance of the existing social order' (2002: 110). She claims here, too, to identify 'a new level of maturity' (2002: 112).

Beattie and Davie (2006) provide a review of the literature on the development of accounting thought (covering practice as well as scholarly research), stretching from the invention of double-entry bookkeeping to the present day; they examine two Kuhnian studies of the transition from classical accounting research (Cushing, 1989; Mouck, 1993) and place a progressive gloss on their findings, against the interpretation of the original authors (see the end of Section 5). Surveys of accounting research aimed at undergraduates, even in the USA, take a more ambivalent line about the move to contemporary modes of research than sources, such as Beattie (2002), directed at postgraduates and academics. Probably the best known, that by Riahi-Belkaoui (2004), borrows Ritzer's model of sociology as a 'multiple-paradigm science' and includes among the paradigms 'striving for acceptance' (Riahi-Belkaoui, 2004: 336) the true income paradigm and the even earlier anthropological/inductive paradigm. A survey aimed at the UK (Deegan and Unerman, 2006), argues that 'there is a role for prescription' (2006: 14) and discusses a number of theories from the golden age; indeed, it implies that the inductivist approach remains valid (2006: 7). Presumably undergraduate texts find it necessary to treat classical approaches as valid so as to square their account with the continuing use of such approaches in accounting practice, including standard-setting.

3. The fruitfulness of contemporary programmes

Beattie (2002) concludes that two modes of research now 'dominate the literature' (2002: 112), the empirically-based programmes of neo-empiricism and behavioural accounting and a radical programme. Her survey of contemporary 'conventional' (i.e. non-radical) British research shows that market-based accounting research 'dominates' the field (Beattie 2005: 92). She categorises just over a quarter of studies as within this programme (Table 2) but a number of her other categories, including disclosure (20%), accounting choice (5%), earnings management (4%), and economic consequences (3%), are essentially neo-empirical (see Parker, 2007: 42). Accordingly, consideration of the fruitfulness of contemporary programmes

will, for reasons of space, be limited to neo-empiricism and the radical programme.

3.1. *The neo-empirical programme*

In 1991, as the momentum of the move away from classical research was becoming irresistible in the UK, a number of leading neo-empiricists in the USA met under the auspices of the American Accounting Association (AAA) to produce a report on what they saw as the 'widespread sense among accounting researchers and practitioners that academic accounting, particularly on the research level, currently faces a serious crisis' (Demeski et al., 1991: 1).⁸ Since neo-empiricism had dominated research in the USA since the 1970s, this crisis was a crisis of neo-empiricism. Among the symptoms of crisis the group identified were that, whereas 'most academic research areas are characterized by cycles of significant innovations ... innovations in accounting research are practically non-existent'; and that, 'despite considerable research effort, it does not seem that we are any closer now than we were 20–30 years ago to addressing the fundamental issues in accounting, such as the optimal choice of accounting standards and the optimal structure of accounting institutions' (1991: 1–2).

Though neo-empiricism may lack cycles of innovation, it is possible to discern cycles of a different sort. A characteristic of the programme is its apparent potential for the development of an integrated and cohesive theory (Peasnell, 1981: 107–108). It is thus unsurprising that highly regarded neo-empiricist scholars have devoted considerable time to producing periodic 'stock-taking' reviews; such reviews have been published at intervals of roughly a decade since the 1960s.⁹ They reveal a cycle of optimism about the prospect of innovation from one source being replaced by criticism once its ideas are found wanting – accompanied by equally buoyant optimism about another potential source.

The earliest stock-taking was a contribution to the conference that received Nelson's 'Golden Age' paper. Hakansson (1973: 160) found empirical research 'still in its infancy' and devoted his concluding section to a discussion of predictive ability, which he thought offered 'great promise'

⁸ I am indebted to Professor Paul Williams for supplying me with a copy of the report.

⁹ Like the programme itself, the surveys are dominated by US work, but since this work leads the way, the reviews have significance beyond the USA and are thus employed in this paper. Most of the reviews cited by Beattie's UK-oriented surveys of methods and studies (Beattie, 2002, 2005) are likewise of US origin. A review covering British findings is discussed towards the end of this section.

(1973: 160). In 1982 the *Journal of Accounting Research* published a series of literature reviews: two dealt with empirical research in financial reporting, one wide-ranging (Ball and Foster, 1982), the other (Lev and Ohlson, 1982) devoted specifically to what was now called market-based research. Predictive ability fell within the remit of Ball and Foster (1982). They described work in this area as having achieved 'limited progress to date' (1982: 215) and argued that 'the most articulated paradigm guiding the empirical research surveyed ... is associated with the "stewardship-contract monitoring" literature.' But 'the results of empirical exercises guided by this paradigm [had] not been impressive' (1982: 191). Like Hakansson (1973) a decade earlier, their explanation for this disappointing state is that it 'reflects the early stage of the development of this paradigm' (1982: 191).

The survey of market-based research concluded that:

'early studies appearing to indicate investor rationality have given way to discomfiting findings. It is now clear that the existence of some investor irrationality cannot be precluded ... When the scope of inquiry is extended to include effects on management compensation and contractual arrangements, it appears that almost all accounting changes can have real effects ... Research on all these important issues is in its infancy, and results are far from conclusive' (Lev and Ohlson, 1982: 250).

There was, however, one bright note: 'for the stock market consequences of accounting regulation, it is comforting to conclude that ... results appear to be consistent and even conclusive' (1982: 250).

The next survey was presented at another Illinois conference. In connection with the comment on accounting regulation, quoted immediately above, one author wrote, 'I disagree with the Lev-Ohlson conclusion ... because it is an overstatement of the results' (Dopuch, 1989: 49). The review of capital markets studies reported that few had been published since 1985 (Bernard, 1989: 73) and the editor's summary of the review concluded that it showed that, 'in spite of several decades of serious research, it is clear that we still know very little about the complex workings of modern capital markets' (Frecka, 1989: 14). Another paper (Abdel-khalik et al., 1989) concluded as follows:

'First, evidence about the income-smoothing hypothesis continues to elude researchers ...

Second, corporations and accounting firms do lobby for their preferred accounting standards ... [but a]gain, hard evidence is difficult to obtain ... Third, the role of contractual arrangements in affecting the choice of accounting methods and accounting accruals has been brought to the forefront ... [but t]he state-of-art in this area has progressed somewhat slowly' (1989: 175).

It is not difficult to see why the AAA group reached the conclusion it did in 1991. But have things improved since? The most recent general survey occupies two full volumes of the *Journal of Accounting & Economics*. A review of capital markets research by Kothari (2001) offers no overall evaluation but his discussant identifies market efficiency as the 'watershed issue' (Lee, 2001, emphasis suppressed) and, on this, Kothari concludes that, although 'we do not observe systematic, large differences in the prices of firms employing different accounting methods' there is evidence that, 'over long horizons differences in accounting methods produce measurable differences in risk-adjusted stock returns. Whether these abnormal returns suggest a modest degree of market inefficiency or they are a manifestation of the problems in accurately measuring long-horizon price performance is unresolved' (2001: 199). This conclusion is very close to that reported by Lev and Ohlson (1982) 20 years earlier.

A second paper deals with accounting choice (Fields et al., 2001). Its authors 'conclude that there has been, at best, modest progress in understanding the motivations for and consequences of accounting choice, with the rate of progress slowing in the last decade (Francis, 2001: 317). A third is devoted to value-relevance (Holthausen and Watts, 2001). According to Beattie:

'The association between accounting numbers and equity market values ... received renewed interest during the 1990s, under the label "value relevance". There is often a suggestion in the literature that such studies can help standard-setters by indicating the "usefulness" of various accounting numbers' (2002: 105).

But the reviewers' conclusion, arrived at after this 'renewed interest', was that, 'while the ... value-relevance literature is large, its contribution to standard setting seems modest' (Holthausen and Watts, 2001: 63).

The usefulness of its output to accounting regulators has always represented an important measure

of fruitfulness for neo-empiricists.¹⁰ The discussants of the 2001 review on value relevance did not agree with its conclusion, arguing that 'the value relevance literature provides fruitful insights for standard-setting' (Barth et al., 2001: 98). In the light of this opinion, it is illuminating to examine a paper published by one of those discussants, Barth (2000), setting out, just a little before the review paper, what she saw as the 'implications for financial reporting' of valuation-based accounting research. She addresses four topics. On the first she concludes, 'what is left to learn about fair value accounting? Much' (2000: 21). On cash flow versus accruals she again concludes that, 'there is much left to learn' (2000: 23). On the third issue, she reports that:

'Research to date on issues related to recognition versus disclosure is rather limited. It is difficult to obtain clear insights on this issue from empirical research because there are virtually always confounding effects ... What is left to learn? Even more than for fair value accounting or cash flows versus accruals' (2000: 24).

Finally 'research indicates that measuring harmonisation is difficult ... What is left to learn? Almost everything we would like to know' (2000: 25–26). Given her views, we can take it that Barth chose these topics specifically to give a favourable impression of the merits of the literature.

By the turn of the century, the cycle of optimism and disillusionment can be discerned within sub-areas of the literature. For example, recall that in 2002 Beattie considered that residual income valuation modelling represented an important recent development combining the best of several approaches (see Section 2). She particularly singled out Ohlson's 'clean surplus' approach (Beattie, 2002: 109). Yet, at more or less the time her paper was being drafted, Kothari's review was pointing out that the way it is constructed 'renders the Feltham-Ohlson model devoid of any accounting content ... because the model does not offer any guidance or predictions about firms' choice of accounting methods or properties of accounting standards' (Kothari, 2001: 177). A more recent survey specifically devoted to accounting-based valuation models reported that,

'Some empirical researchers have become disenchanted with [residual income, insofar as it deals

with reported accounting numbers rather than forecasts], pointing to the apparent misspecification of the linear information dynamics of the ... models ... Further, attempts to modify [them] have not improved the valuation relation performance of models ... Finally, every attempt to date to resolve the other information conundrum by substituting observables for unobservables has led to the realization that omitted variables remain' (Richardson and Tinaikar, 2004: 246).

Again, the section of Holthausen and Watts' review (2001: 64–66) offering suggestions for future research devotes more space to conservatism than any other topic, specifically citing studies by Basu (1997) and Ball et al. (2000). Yet a recent review of work on conservatism provides evidence that results from a range of studies, including the two papers cited by Holthausen and Watts, 'are attributable to biased test statistics rather than to conservatism' (Dietrich et al., 2007: 96).

The sole non-US survey (Dumontier and Raffournier, 2002) cited by Beattie (2005) covers the whole of Europe but as there is evidence of a 'British hegemony over Europe-based accounting research' (Cámara et al., 1999: 473) it seems likely that its findings largely reflect the state of the British literature. Its authors conclude that the studies surveyed 'provide little evidence useful to standard-setting bodies for the assessment of accounting standards or to managers in forming disclosure strategies to communicate effectively with investors' (Dumontier and Raffournier, 2002: 145).

On any realistic appraisal, then, reasons to be cautious about the reliability of neo-empiricism's innovations and the relevance of its findings to financial reporting were apparent from the early 1980s.¹¹ A decade later, as we saw at the beginning of this section, even distinguished proponents of the programme were expressing their doubts. Subsequent contributions to the literature give little reason to revise an attitude of caution.

3.2. *The radical programme*

Interdisciplinary, interpretive, critical or radical accounting researchers subscribe to a number of different 'world views' (Chua, 1986) or 'ways of seeing' (Roslender, 1996: 540) and, indeed, disagree about which 'ways of seeing' qualify for which titles (Roslender and Dillard, 2003: 326; Ryan et al., 2002: 41–44). Although radical

¹⁰ Members and staff of the US Financial Accounting Standards Board have from time to time expressed the view that research actually produced has been of limited relevance to their task and called for classical research: see, for example Leisenring and Johnson (1994) and Van Riper (1994: 52–53).

¹¹ The programme has attracted extensive epistemological critique (Reiter and Williams, 2002: 592, cite 21 studies, adding that this represents 'by no means an exhaustive list'); five critiques appeared as early as 1982 and 1983, and one of these was by British authors (Lowe et al., 1983).

researchers often claim to be excluded from the mainstream of accounting research¹² in fact, as Beattie points out (2005: 86, note 1), “critical accounting” is increasingly entering the mainstream outside the US’.

Roslender and Dillard (2003) trace the emergence in the 1970s of a radical accounting project, drawing on the critical sociology of Marxist theory and the work of the Frankfurt School, and its displacement in the mid-1980s by a Foucauldian perspective (see also Gendron and Baker, 2005). Non-Foucauldian approaches survive but earlier influences have been joined, and are now dominated, by postmodernist and post-structuralist perspectives (Roslender, 1996: 541). In its heterogeneity, radical accounting research simply resembles, of course, the wider domain of social theory (Ritzer and Smart, 2001: 4). Ritzer, who introduced the notion of sociology as a ‘multiple-paradigm science’ (1975), argues that sociology has now become even more diverse: ‘the result is a wide open theoretical world, one that is so unrestricted and contested that it borders on, if it has not already descended into, chaos’ (Ritzer and Goodman, 2004: A16–17). Radical accounting researchers even disagree about what response the existence of a multiplicity of perspectives should provoke. Is the appropriate attitude, ‘tolerance, willingness to listen, and respect for alternative views’ as advocated by Merino (1998: 603), or should proponents of one school slug it out against all-comers, an approach certainly practised by, for example, Tinker (2005)?

The variegated – perhaps chaotic – nature of the radical programme makes it difficult to judge its results in the round. There is an abundant literature critical of every aspect of the social theorising on which the radical programme draws, from its most general epistemology (see, for example, Nagel, 2001) to the detailed content of its individual positions; for critiques broadly sympathetic to the radical project, see, for example, Best and Kellner (1991) and Sarup (1993). Perhaps the most fundamental challenge is offered by Nagel (2001: 15): ‘It is usually a good strategy to ask whether a general claim about truth or meaning applies to itself’. It is by applying this test to the work of Foucault and his disciples, the dominant school within radical accounting research from the mid-1980s according to Roslender and Dillard (2003), that Sanbonmatsu (2004) is able to write in the following terms:

‘Foucault’s refusal of the *Lebenswelt* – the quotidian world of meaning ... reduces the first-order meanings of human civilization – including its *sophia*, its wisdom – to the status of shadows on a wall ... [T]he only autonomous “being” not duped into mistaking the shadows of “experience” for experience, is the archaeologist [i.e. the theorist] herself ... “Experience” only becomes intelligible, *real*, when a genealogist like Foucault or Scott or Spivak is on hand to observe it’ (2004: 111–13).

Gendron and Baker (2005) use a Foucauldian ‘sociology of translation’ approach to model the dissemination of Foucauldian ideas within accounting research, arguing that ‘academic endeavours are subject to tension between originality (differentiation) and imitational conformity’ (2005: 536), with the adoption of a Foucauldian perspective by a few scholars representing the initial act of originality. But the tension between innovation and imitation might equally well be cast in terms of a purely imitative adoption of any original perspective from social theory and attempts to expand and enrich it by examining accountancy itself. Thus, when Macintosh (2002) concludes his book-length review of ‘poststructuralist positions’ on accountancy with the insight that,

‘Nietzsche wrote, ““Truth” is therefore not something there, that might be found or discovered – but something that must be created and that gives a name to a process, or rather to a will to overcome that has in itself no end ... It is a word for the “will to power”.’ Could it be, then, that accounts which are deemed to be “true and fair” or “presented fairly” are also only words for the will to power?’ (2002: 134, original citation omitted),

he is claiming nothing more than that, supposing Nietzsche to be right about the world at large, his (Nietzsche’s) characterisation holds true for accountancy.

Armstrong (1994: 38) puts the point thus: it ‘has been typical of much Foucauldian accounting research’ that it proceeds ‘only outwards from Foucault’s concepts and insights, rather than back into them after an encounter with empirical data’. Commenting more generally on the radical programme, Humphrey (2001: 93) talks of ‘this privileging of social theories ... which never saw such theories being altered by their exposure to accounting’ and goes on to ask ‘how many [studies] are needed before it can be accepted that accounting is socially constructed, paradoxical, bound up with

¹² For example, Roslender and Dillard (2003: 326) say that, ‘from the outset, research perspectives beyond that of neo-classical economics have been, and continue to be, viewed unfavourably by those who constitute the gatekeepers of accounting knowledge’.

power relations and has unintended consequences?" Of course, studies that demonstrate that the insights of social theory apply to accountancy have some use, though they suffer the same flaws, if flaws there be, of their root theory, a point demonstrated in the context of Foucauldian accounting research by Armstrong (1994: 28–29).

It may, indeed, be questionable whether the root theories do actually apply to accountancy. Armstrong points out that claims to offer analyses of accounting systems as Foucauldian disciplinary regimes, such as the famous study of standard costing by Miller and O'Leary (1987: 31), collapse the distinction between 'moulding the actual details of individual conduct', a central concern for Foucault, and the potential offered by both management and financial accounting for leaving methods unspecified, provided desired results are achieved. Again, attempts to employ the Foucauldian notion of the 'disciplinary society', 'basically a two-epoch model' (Armstrong, 1994: 34), to explain relatively small-scale accounting change, as in Hopwood's equally famous study (1987), stretch the concept in a way that, Armstrong concludes, does nothing to 'illuminate the question of whether a consideration of accounting as power-knowledge has anything to contribute to an understanding of accounting change' (Armstrong, 1994: 34).

According to Armstrong (1994: 38), one of the more ingenious Foucauldian studies in financial accounting is that by Hoskin and Macve (1986). This argues that double-entry bookkeeping was translated from various 'gridding' practices in early 13th century scholasticism, such as the numbering of paragraphs within texts. Yet the establishment of a genealogical connection depends on demonstrating that the practices have more in common than others excluded from consideration, which Hoskin and Macve do not do (Armstrong, 1994: 49); although they do demonstrate that the group supposedly implicated in the extension of the practices to accountancy was exposed to the alleged prototypes, the evidence that its members perceived the various practices as similar is only circumstantial (Armstrong, 1994: 49). In any event such a biographically-focused approach appears inconsistent with Foucault's own decentring of the subject.

Some social theorists proceed by 'advocating "what *ought* to be out there" instead of uncovering "what *is* out there"', so that 'sociological theorising becomes "a mode of altering reality, not by the direct application of energy to objects, but by the creation of discourse which changes reality through the mediation of thought and action"' (Zhao, 2001:

391, quoting Bitzer, 1968). In this case, 'the success of theorising is marked by the actualisation of what is advocated rather than by the verification of what is uncovered' (Zhao, 2001: 391). This approach is, naturally, to be found within the radical accounting programme, with some taking it to be the defining characteristic of its truly 'critical' branch, now to be known as 'enabling accounting' (Broadbent et al., 1997), and finding themselves 'troubled by the motivations of those who wish to be identified as critical accountants but who have no inclination to be associated with the political dimension of the project' (Roslender and Dillard, 2003: 327). For those who 'regard "reporting" as the *sine qua non* of accounting' (Tinker, 1999: 646), the challenge is to find new financial statements that will secure the desired social change. Some have risen to this challenge, but the results generally appear banal. The finale of Macintosh's book, cited earlier, is a proposal for what he calls 'heteroglossic accounting', following Bakhtin's conception of the heteroglossic novel, which 'gives equal weight to the voices of both the characters and the author' (Macintosh, 2002: 129). Its aim is to 'produce a report that allows the various "voices" currently embedded, but muffled[,] in the monologic report to "speak"' (2002: 131). Macintosh's example of such a report records the results of oil and gas operations using all four well-known accounting policies advocated for use within the sector, that is, immediate write-off, full costing, successful efforts and reserve recognition (2002: 131–132). But such a report can be thought of as an example of multi-column reporting, as advocated by Professor Edward Stamp (1981) a quarter of a century ago. Lest Stamp be thought a closet postmodernist, it should be pointed out that the UK profession advocated research on multi-column reporting in 1975 (ASSC, 1975: para. 7.40). Macintosh's proposal thus seems to achieve by radical theorisation what can perfectly well be arrived at by conventional means.¹³

The paucity and banality of the proposals offered by radical theorists accepting the challenge in the terms set out above is, for other radical theorists, simply a consequence of the technocratic and reductionist nature of those terms (Tinker, 1999: 646 and note 6). Even apparently quite fundamentally grounded platforms for change are vulnerable to the charge of reductionism. As a case in point, we can examine Lodh and Gaffikin's (1997) response to Laughlin's (1987) advocacy of a Habermasian framework to develop a critique of accounting

¹³ For further examples, see Fleischman and Radcliffe (2003: 16) and Armstrong (1994: 46).

systems in an organisational context utilising insights obtained by researchers. In Lodh and Gaffikin's view, Habermasian "socio-principles" cannot be reduced to the methodological corollary at the level of an individual researcher' (Lodh and Gaffikin, 1997: 455) and thus the prospect of changing an accounting system within the Habermasian framework is postponed until appropriate socio-principles are manifest in the accounting world, or, possible, in the world at large.

How far has enabling accounting advanced? Not very far, according to Roslender and Dillard (2003: 342): even within the 'research community', apparently, 'there are many fields within the mainstream in which the critical accounting project is still largely unknown'.

Given the nature of the radical programme, this evaluation of its fruitfulness has necessarily concentrated on the robustness of its theoretical insights. It may well be that the chaos observed by Ritzer and Goodman (2004)¹⁴ is also the 'new level of maturity' which Beattie (2002: 112) infers from criticism from within the programme that it has 'lost its way because it is divided on methodological, philosophical and ideological lines'.¹⁵ Ritzer and Goodman ask what theorists can accomplish in such an environment: 'one thing they clearly cannot do is "advance" a theoretical perspective. Such a notion is based on the dubious idea of the existence of a well-defined theoretical perspective' (2004: A20). But theorists 'can gain new insights into the social world and can create new theoretical ideas' (2004: A20). It seems, though, that the incremental bounty of the radical accounting programme, its innovative and relevant insights into the nature of accountancy – beyond the insight that accountancy shares the character of other social practices, whatever this may be – has so far been limited. What we have is a shifting sea of possibilities, all contestable and endlessly contested, a field, like its parent discipline, 'almost constantly in flux' (Ritzer and Smart, 2001: 4).

4. The epistemology of the classical programme

4.1. The Illinois critique

Nelson's (1973) essay is often cited, in the UK¹⁶ as well as the USA, as early evidence of fundamental

dissatisfaction with classical research. His view of the flaw in the programme was that,

'if research is defined as the statement of hypotheses and the testing of hypotheses, a priori research might be called semi-research, because it is concerned with the statement of hypotheses on how accounting should be done, without the testing of these hypotheses' (1973: 3–4).

This critique appears to embrace the position, known as hypothetico-deductivism, generally associated with Karl Popper, whose work, *The Logic of Scientific Discovery*, was first published in English in 1959 (Jarvie, 2005: 821).

Hakansson's (1973) contribution to the same conference offers a rather different role for empiricism in financial accounting research. He is clear that accounting theorisation involves a normative dimension: 'we have worried and do worry more about what accountants should do rather than what they do do' (141).¹⁷ For Hakansson,

'empirical research is ... essential ... in determining the descriptive fit of the *premises* which underlie normative theories, and hence in satisfying one of the requirements (the other being the impeccability of the logic) for acceptance of a normative theory in making the "best" choice' (1973: 141).

His survey of empirical research reflects this view, being structured in terms of the various premises that individual studies can be considered to test. A commentary on Nelson's paper by Larson (1973) also took issue with Nelson's view. According to Larson, 'the significance of a priori research to the development of accounting is absolute' on the grounds that 'accounting is very largely a process of number assignment ... and ... analytical or a priori research plays a primal role in the evaluation of alternative number assignments' (1973: 29).

4.2. The nature of a priori justification

Epistemologically, the term 'a priori', 'typically connotes a kind of knowledge or justification that does not depend on evidence, or warrant, from

¹⁴ See the quotation earlier in this section.

¹⁵ See Section 2. The second quotation is drawn by Beattie from an unpublished version of Roslender and Dillard (2003); the phrase does not appear as such in the published version.

¹⁶ For example, by Whittington (1986), in the comments from which the quotation in Section 2 is drawn.

¹⁷ Classifications of financial accounting research frequently use 'a priori' and 'normative' interchangeably. For example Deegan and Unerman (2006) agree with Beattie (2002) that there is a research programme exemplified by the work of Chambers (especially 1966), Edwards and Bell (especially 1961), and Sterling (especially 1970), but refer to it as 'normative' (121–166) when Beattie uses 'a priori' (Beattie, 2002). Beattie's survey of British financial accounting research (2005: 93) uses 'normative' and 'a priori' as implied synonyms in describing the same type of research.

sensory experience' (Moser, 2005: 1). Such knowledge is acquired 'using only [one's] powers of reasoning' (O'Brien, 2006: 25). If those who attached the label to the work of the golden age theorists intended to consign its achievements to oblivion, they could hardly have chosen more astutely. The following text is extracted from an AS level primer in epistemology:

'The fascination with a priori truths ... has a long philosophical history. To regard such knowledge as having a privileged status, and to hold it as a benchmark for all other knowledge claims, is one of the main features of rationalism ... [But] the rationalist project appears to have failed. The dream of grounding any substantial knowledge of the world on the back of the absolute certainties of reason could not be realised' (Cardinal et al., 2004: 43 and 70).

Or, to quote from a work by one of the leading representatives of the school of logical positivism, originally published in 1936, 'to say that a proposition is true a priori is to say that it is a tautology. And tautologies, though they may serve to guide us in our empirical search for knowledge, do not in themselves contain any information about any matter of fact' (Ayer, 1990: 52).

Empiricists such as logical positivists regard all a priori truths as what Immanuel Kant called 'analytic' statements, in contrast to 'synthetic' truths, which 'do not simply depend on what our terms mean, but also on how the world happens to be' (O'Brien, 2006: 27). But Kant himself did not believe that all a priori truths are analytic. Included in his own list of synthetic a priori truths are those that underpin empirical investigation, such as the belief that events have causes (Morton, 2003: 46). Contemporary philosophy continues to embrace a wide range of views about the existence, nature and scope of a priori knowledge (BonJour, 2005; Devitt, 2005). To know that something that is red all over cannot be green all over is an a priori truth but not one that appears to be analytic. If it were so, the concept of 'red all over' would be reducible to 'not green all over' and 'not blue all over' and 'not yellow all over' etc. and this is implausible: it would seem that we can possess the concept 'red' without possessing the concepts of all other colours (O'Brien, 2006: 27). In the same way, mathematical truths can be argued to be synthetic: 'I can understand " 12 " without understanding " $(\sqrt{4/9})^2 \div 3$ "' (O'Brien, 2006: 28).

Among, as Peacocke (2005) charmingly puts it, 'friends of the a priori' (2005: 742), it is accepted that 'the range of propositions that are a priori is vast

and varied' (Peacocke, 2005: 745). Examples offered by Peacocke in defence of his claim of particular relevance to financial accounting theory include the principles of rational decision theory and 'much of economics' (2005: 745).¹⁸ Speaking of his full list, he says that 'it is often clear that a proposition is a priori, while the nature of the justification or entitlement for belief in the proposition remains unclear ... The identification of the full nature of the entitlement that sustains a priori knowledge, as opposed to its existence, is an open question in almost all the domains mentioned above' (2005: 746).

Logical positivism, with its strongly dismissive view of a priori knowledge, flourished in Europe before, and in the USA after, the second world war but was everywhere in decline by 1960, not least as a result of the work of W.V. Quine (Friedman, 2005). Quine, writing in the 1950s and 1960s, drew on the argument of the French physicist and philosopher of science, Pierre Duhem, that 'non-observation sentences face the tribunal of experience not singly but in groups' (Dancy, 1985: 92). Claims other than those which report nothing beyond the evidence of our senses, strictly interpreted, cannot be conclusively verified, or conclusively falsified, by observation alone; they will always be part of a more general theory and 'because of this we have a choice where to alter the theory when things go wrong at the observational level' (Dancy, 1985: 92). For Quine, apparently secure analytic truths such as that 'a woman giving birth to a child is its mother' are subject to revision on the basis of empirical evidence – such as that the child is the result of in vitro fertilisation of an ovum supplied by another woman (example from Everitt and Fisher, 1995; cited in O'Brien, 2006: 131). Even mathematics and logic are subject to change: '[r]evision even of the logical law of the excluded middle has been proposed as a means of simplifying quantum mechanics' (Quine, 1953: 43).

4.3. *A priori justification and 'scientific rigour' in the golden age*

Though published in the 1960s, the grand theories of the golden age are associated with methodological developments which took place during the preceding five years (Gaffikin, 1988: 19). Gaffikin argues that much the most important contribution to this phase was made by Chambers in four articles, the first of which (1955) 'was indeed seminal'

¹⁸ For the argument that economists' methods are a priori but that they do not treat their basic assumptions as analytic, see Udehn (2003: 152) and Hausman (1992).

(Gaffikin, 1988: 17). Although, for Gaffikin, the 'hallmark' of the work was 'the appeal to what was understood to be the application of scientific rigour to accounting research and theory construction' (1988: 19), he nonetheless says of Chambers' apparently seminal work that, 'while alluding to a theory of scientific rigour, the argument can only be admitted as a set of tentative hypotheses based on a priori assumptions' (1988: 18). In Gaffikin's view, Chambers' articles make it 'increasingly clear that the formal methodology to which he was alluding was hypothetico-deductivism' (1988: 18) so that 'with hindsight it is apparent that these early works were leading to Chambers' *opus magnum*, *Accounting, Evaluation and Economic Behaviour*' (1988: 18). This was one of the studies offered to Nelson as an illustration of golden age theorising and in it Gaffikin finds further evidence to 'reinforce the belief that [Chambers] employed hypothetico-deductivism' (1988: 21).

Despite his claim to discern hypothetico-deductivism in the work, Gaffikin concedes that Chambers'

'argument is analytically derived from basic assumptions (postulates) which he claims are derived from his observations of the business world, together with notions generally accepted in economic theory. This is the method Mattessich refers to as being postulational' (1988: 21).

Gaffikin explains that a postulational work 'relies on certain assumptions (axioms) from which conclusions are deduced' (1988: 21) and treats the term as synonymous with 'a priori' (1988: 24). After examining all the works identified for Nelson as examples of a priori theorising (and others), Gaffikin summarises the 'methodological soul-searching by accounting writers' during the 1960s as concluding that 'the prospect of the further development of accounting ideas was seen to lie in the application of the rigour of scientific method. This was found in the various guises of logical empiricism/positivism' (1988: 23). He nonetheless goes on to list a variety of terms used to describe the methods involved, including 'a priori', 'postulational', 'normative' and 'deductive' explaining that, although 'not all are accurate descriptions', they do 'relate to features of the methods' (1988: 24).

It would appear, then, that the outcome of the golden age's concern with epistemological and methodological issues was a commitment to scientific rigour and a consequent desire for empirical engagement which some are able to read as embracing logical empiricism/positivism, and per-

haps even hypothetico-deductivism (see also Mouck, 1989), but, at the same time, the continued use of methods generally associated with a priori theorising. This ambivalence may have made it easier for Nelson to create a presumption for the hypothetico-deductive method – a position which, as Gaffikin's characterisation of the methods used by the golden age theorists demonstrates, cannot be derived directly from their work and, further, is not consistent with the philosophical use of the term 'a priori'. It may also have contributed to the difficulty of defending golden age theorisation in its own terms.

But such a defence would have been possible. Ironically, perhaps, one could have been mounted from a proper interpretation of the term 'a priori'. As we have seen in Section 4.1, Hakansson's Illinois contribution took a rather different line from Nelson's. For him, the model underpinning a financial reporting system has a normative character, unsusceptible to empirical testing. The contrast between normativity, in the sense employed by Hakansson, and empirical verification, need have less significance for an analysis of the role of accounting theory than it may appear to have at first sight. If I have a sore throat and visit my doctor and she tells me to take medicine X, she is employing an overarching normative theory (I *ought* to take the medicine) but one underpinned by: (a) observations of people like myself, further confirmed by my attendance at the surgery, that my objective is to be restored to good health; (b) empirical verification (as it happens, scientifically conducted) of the relationship between taking medicine X and the curing of sore throats; and (c) a range of other value judgments and observations of means-ends relations covering cost, unpleasantness of treatments, likelihood of success, and so forth.

Developments in rational decision theory and in related areas within economics¹⁹ and operational research taking place during the 1950s and 1960s (see, for example, Simon, 1956, 1965) exhibit a similar character to the example in the previous paragraph, though with a heavier emphasis on the logical linkages in the modelling (Mattessich, 2002: 187–188). On this view the non-empirical truths of the golden age's grand theories take the form of synthetic a priori propositions. Hakansson is merely holding that the theories are derived in part from premises that are themselves susceptible to

¹⁹ The role of a priori justification in economic theorisation had been debated for more than a century before the 1960s (Blaug, 1980: chapters 4–5), remained a live topic during the decade (see, for example, Stone, 1966), and remains so now (see, for example, Maki, 2002).

empirical testing – and should, indeed, be so tested.²⁰ An approach to financial accounting as a conditionally normative discipline has been advanced by Mattessich, who developed a structure ultimately termed Conditional-Normative Accounting Methodology (CoNAM, see Mattessich, 1995: ch. 11). Although initially proposed in his 1964 work, the structure appeared in complete form only during the 1970s (Archer, 1998: 310). It has elicited little interest, perhaps because of its emerging fully only after the social scientific turn in the USA and weaknesses in other areas (Archer, 1998).

An alternative formulation of the defence might have been offered from a Quinean position. Accounting theorisation, it could have been argued, occupies a position within the interior of the web of accounting knowledge, nearer in form to logic and mathematics than the experimental sciences. Recalcitrant experience, for example in the form of unstable prices, may require an adjustment to this interior structure and it was on this particular work that the golden age theorists were engaged.²¹

4.4. The UK response to the Illinois critique

In December 1979, nearly a decade after the Illinois conference, another took place in London to ‘review the current state of accounting research in the UK’ (Bromwich and Hopwood, 1981: xii). The principal paper devoted to financial accounting theorisation concerned income theory and was contributed by Whittington (1981a). As we have seen in Section 2, Whittington’s conclusion implies that a priori theorising is alive and well in the UK.

After a further seven years, Whittington provided an ‘overview’ of financial accounting theory (1986) in which he referred to Nelson’s 1973 paper and argued that,

‘There were and are two responses to this

critique. The first is to narrow the area of disagreement by empirical research, rejecting theories whose assumptions or predictions are at variance with empirical evidence. This type of research has become increasingly popular during the past fifteen years or so ... The second response is to adopt an eclectic approach to income measurement, providing a variety of alternative measures ...’ (1986: 15).

The second response is, of course, a way of handling the alleged indeterminacy of theory in practice, not a prescription for theoretical advance. While the first is formulated in a way that is even-handed between hypothetico-deductivism (the testing of predictions) and postulationalism (the testing of assumptions), its focus on empiricism reflects the decline in a priori work then occurring in the UK.

5. The turn to mainstream social science

Financial accounting research’s turn to mainstream social science can be plotted by reference to its ‘objects of inquiry’, using the term in its Kantian sense to denote,

‘the way in which phenomena in the social domain (people, behaviour, actions) become “objects” of ... inquiry by being classified in certain ways, in specific contexts, and under some descriptive conditions’ (Montuschi, 2003: 20).

According to Nelson (1973: 15), the hypothesis underpinning a financial reporting system is that,

‘the proposed financial reporting will cause the decision-maker to make decisions which will enable him [sic] to reach the goals that have been set, or at least result in more progress towards these goals than would exist if alternative measurement systems were to be used.’

Though it might be possible to test a system empirically, for example along the lines envisaged by Nelson, using the measurements resulting from the system as part of the test (but not, of course, to measure outcomes such as investor wealth, the independent variable), the system itself does not generate predictions that can be tested. Further, testing the hypothesis in any rigorous way would be profoundly difficult for a number of reasons including the strict unavailability of the comparator and the highly complex interrelationships between the various economic and social factors involved, which make applying the *ceteris paribus* condition extremely difficult (Archer, 1998: 311–314), a point made by Chambers himself in one of the papers

²⁰ This position is compatible with the example of empirical testing offered by Chambers in the (1955) article referred to earlier in this section:

‘If one is confronted with what purports to be a theory of accounting, and finds that it deals with corporate accounting only, the existence in reality of unincorporated ventures will cast doubts on the validity of the propositions put forward’ (Chambers, 1955: 19).

²¹ Applying Nagel’s (2001) test (see Section 3.2) to Quine’s (1953) ‘web of belief’ invites the question, ‘if all our beliefs are revisable, is the belief that all our beliefs are revisable revisable?’ (Ritchie, 2008: 202). Whether this gives rise to a formal paradox is a matter of dispute within philosophy: for arguments that it does, see Katz (1998) and Elstein (2007); for the opposite position, see Adler (2003), Resnik and Orlandi (2003) and Colyvan (2006). A response in keeping with Quine’s location within the pragmatist tradition would be that, supposing the web of belief model to be the best that can be achieved, we should take it as good enough (Rescher, 2005: 747).

alluded to earlier (Chambers, 1960: 38–39). So scientifically rigorous empirical work on financial reporting systems was never going to be easy.

Both Nelson (1973: 18) and Hakansson (1973) (see Section 3.1) identified predictive ability as a promising approach to the sort of empirical work they were calling for. Predictive ability studies respond directly to what are taken to be investors' ultimate information needs, namely forecasts of future events that will affect their wealth, typically dividends or the corporate cash flows available to pay them. They attempt to identify superior financial reporting methods on the basis of their usefulness in facilitating the generation of such information. In so doing they retain the classical programme's focus on the traditional objects of inquiry of financial accounting research, namely financial reporting systems as systems, while enabling researchers to bring statistically more sophisticated methods to bear on their work. As Beattie (2002: 102) reports, the first wave of empirical work to follow the Illinois critique did indeed focus on predictive ability. But, in 1979, probably the first survey of empirical research in financial accounting directed at a UK audience was reporting that predictive ability studies, in both the USA and the UK, were 'extremely thin on the ground' (Peasnell, 1981: 113).²² Its author drew attention to the size of the challenge presented in designing tests of predictive ability: (a) predictions require a forecasting model as well as data and any test of predictive ability will be a joint test of both; (b) realistic data from financial reporting systems other than that currently employed in statutory reporting will be difficult to obtain; and (c) testing over a long time horizon is required (1981: 112–114).

One response to the limited success of the approach, in the face of problems recognised as very challenging (for example, by Carsberg et al., 1977: 421–422), would have been to redouble the effort expended on addressing those problems. Another would have been to seek alternative ways of supplying empirical validation, such as adopting the structure suggested by Hakansson (see Section 4.1 and later this section). Yet another would have been to return to classical methods, mounting a more robust defence of the programme, perhaps following up the avenues suggested in Section 4. What actually happened was rather different.

In Whittington's view, a key factor implicated in the growth of empiricism from the 1970s was the

influence of the Chicago (or Rochester) school (Whittington, 1986: 24–25), that is, so-called positive accounting theory. The epistemological position of the Rochester school combines Popperian falsificationalism and Friedmanite instrumentalism (Watts and Zimmerman, 1986: 7–12). In their search for tightly-defined hypotheses that could be tested rigorously by statistically sophisticated methods (in the case of the Rochester School, the methods of quantitative economics), neo-empiricists switched their attention from financial reporting systems as systems, to any objects of inquiry identifiable within the domain of financial reporting that might prove amenable to such testing. Such objects included the behaviour of those involved in the reporting process and accounting numbers considered as independent entities associated only loosely, if at all, with the systems that generate them. Positivists, and other neo-empiricists, often test hypotheses involving the inputs or outputs of financial reporting systems: for example, they tested whether 'managers selected accounting methods opportunistically to enhance their own wealth' (Beattie, 2002: 107) and 'the way in which the stock market, through share prices, reacts to different types of accounting information' (Beattie, 2002: 104). But these tests generally treat the financial reporting system itself as a black box, of relevance only in providing outputs or a framework within which choices are made. As Barth's (2000) paper ultimately concedes, very little is learnt about which outputs and choices would be appropriate (see Parker, 2007: 42). The positivist's – and, to a considerable extent, the neo-empiricist's – approach to hypothesis formulation, considered as a practical activity, is that of the pure social scientist: questions asked are driven by the scope for rigorous testing rather than the level of interest necessarily attaching to the answers. As Zeff memorably put it, studies are 'the result of methods in search of questions, rather than questions in search of methods' (Zeff, 1983: 134; see also Zeff, 1989).

There is widespread agreement that the paper by Ball and Brown (1968) represents a watershed in the development of financial accounting research (Beattie, 2002: 104; Watts and Zimmerman, 1986: 15; Whittington, 1986: 25). Watts and Zimmerman's well-known text on positive accounting theory identifies the paper (perhaps claims it) as marking the beginning of the literature they survey (1986: 15) and spends eight pages describing it (40–47). But Hakansson's (1973: 146) stock-taking of empirical work for the Illinois conference, which explicitly viewed the role of such work as being to test premises underlying financial reporting theory

²² Several of the most frequently cited papers on predictive ability – including probably the best-known British example, that by Carsberg et al. (1977) – merely describe and argue for the approach rather than providing an application of it.

as then constituted, included the Ball and Brown study, classified as a test of an 'assumption bearing on the question *what*: relevance (assets, claims and changes in these)' (1973: 144, emphasis supplied). A number of other studies are also common to the surveys by Hakansson and by Watts and Zimmerman. The dividing line between the two is not based on the design of individual studies, which can thus be claimed by both sides. On the surface, this enables positivism to be represented as 'merely an extension of the general direction of accounting research since the late 1960s' (Gaffikin, 1988: 31). But the division does reflect a major difference in the underlying epistemological stance of the surveys. In one, individual studies are regarded as contributing on a piecemeal basis to the overall project of testing financial reporting systems as systems; in the other, each study delivers a new individual insight into the world of financial reporting. In the latter case, as we have seen, the objects of inquiry thus became the phenomena captured by the empirics. By the mid-1980s in the UK – somewhat earlier in the USA – the former view was defunct. The predictive ability criterion had been written off as a failure before the major research programme called for by Carsberg et al. (1977) had properly got under way and the studies of Ball and Brown and others had been successfully claimed for positivism.

Beattie (2002) describes the move to positive accounting theory as 'a reaction to the *excessive* a priori theorizing in financial accounting in previous decades' (2002: 106; emphasis added). However, by the time the calls for strong-form positivism were at full throttle, financial accounting research had, for example via predictive ability studies and Hakansson's scheme, begun to engage with empirical methods of validation. Although Whittington (1986: 24–25) characterises neo-empiricists as motivated in part by the desire to resolve the debate between competing golden age theorists, very few serious attempts so to do were in fact made; once empiricists had given up on predictive ability, attempts at testing financial reporting systems as systems were simply abandoned. Yet support for positivism's epistemological underpinning was far from secure. Falsificationalism was, from the early 1970s onwards, coming to be largely rejected in favour of more sophisticated approaches, on the grounds that individual instances of adverse evidence need not (and in practice do not necessarily) lead to rejection of a theory, as opposed to acceptance of some other explanation such as imperfections in observation (Benton and Craib, 2001: 58–63). Friedmanite instrumentalism, which

holds that in testing theoretical models, 'the *only* question is which sort of model results in more successful predictions' (Hollis, 1994: 54), and that the realism or otherwise of assumptions in the model is irrelevant, has always been highly controversial, even among positive economists (Hausman, 1994: 39–40; Hollis, 1994: 53–56).²³ As Mouck (1989: 90) points out, 'it is ironic ... that accounting researchers were awakening to the scientific method of inquiry just as events in philosophy of science were raising doubts about the validity of any exclusive approach to inquiry.'

One important difference between the American and UK scene is the place of radical accounting research. In the USA, strongly positivist variants of empiricism continue to hold an overwhelmingly dominant position (Reiter, 1998). While a 'strongly positivist' version of neo-empiricism remains the 'predominant' research tradition in the UK (Beattie, 2002: 112), the British academy has found substantial space for interpretive and critical approaches (Beattie, 2002: 212). The development of the radical programme can be linked to that of positivism in a number of ways. The positivist project predated radical accounting research and, by redefining the objects of inquiry of accounting research, opened up the ground for other perspectives drawn from social science and sanctioned the move away from focusing on financial reporting systems as systems. Further, positivism provided a position against which to react (Roslender and Dillard, 2003: 327): many expositions of radical developments in accounting thought, including possibly the most frequently cited, Chua's 1986 paper in the *Accounting Review*, are set out as a series of contrasts with what she calls the 'mainstream' (Chua, 1986: 611) perspective, and Merino (1998: 604) says firmly: 'I view the rejection of modernist epistemology, modelled on 17th century Newtonian physics and its rule bound methodology, as the unifying factor in accounting critical [sic] research'.

Though optimism about the potential for a priori theorising (in effect, classical accounting research) survived in the UK into the late 1970s (Whittington, 1981a), the embrace of social science turned out to be as seductive in the UK as in the USA. Yet, as demonstrated in Section 4, epistemological positions to underpin classicism remained available and, as shown in Section 3, by the early 1980s, there was plentiful evidence that neo-empiricism was not yielding the abundance of results that had been

²³ Hakansson (1973: 158) explicitly rejected Friedman's argument.

hoped for. Rather, the turn to mainstream social science represented the seeking out of social scientific methodology for its own sake.

As mentioned at the end of Section 2, both Cushing (1989) and Mouck (1993) examine the move to neo-empiricism in the USA using a Kuhnian framework. Cushing considers that the US crisis in financial accounting research in the 1970s parallels, not a Kuhnian paradigm shift, but a different effect noted by Kuhn, namely the desertion of science by scholars unable to tolerate crisis: 'contemporary academic accountants ... have in a fundamental sense deserted accounting' (p. 29). Beattie and Davie (2006) report Cushing's broad argument correctly but immediately follow this by stating that, 'thus, the domain of the accounting discipline *widened* and new theory groups formed' (p. 4; emphasis added). Widening of theory is a form of progressiveness but is hardly consistent with Cushing's own view: 'the discipline's leading scholars no longer display a paramount interest in the fundamental issues that distinguish accounting from other fields. This suggests that accounting's present crisis is not only severe, but possibly fatal to accounting as a viable branch of knowledge' (Cushing, 1989: 31). Again, Beattie and Davie suggest that Mouck's (1993) conclusion was that the transition was 'not a revolution ... but rather a normal science expansion of the economics paradigm' (pp. 4–5). They fail to point out that Mouck regarded this expansion as an incursion by economics into space formerly occupied by the, now-failing, classical research programme, which he actually argued to be in a pre-paradigmatic state.

6. The sociology of the turn to mainstream social science

A growing literature on the sociology of accounting research practice in the USA²⁴ is directed at explaining the emergence and continuing dominance of neo-empiricism, a dominance seen, at least implicitly, as achieved against the claims of radical research rather than the classical programme. This paper begins the search for a more complex sociological model of the British financial accounting academy that can account for the widespread adoption of neo-empiricism despite its fruitfulness having already come under question from its own practitioners in the USA; its continuing vitality in the face of limited fruitfulness; the emergence of a

substantial community of radical researchers and their absorption into the mainstream, again in the face of limited fruitfulness; and the demise of classical accounting research despite the evidently pluralistic nature of the British academy. Following Beattie (2005), potential influences will be classified as cognitive, external social, and internal social factors.

6.1. Cognitive factors

According to Whitley (1988: 641), the particularly strong 'belief in scientific knowledge as a crucial resource in maintaining and improving the social order' manifest in the USA, combined with the achievements of operational research and economics, encouraged an expansion in formal, mathematicised, hypothetico-deductive methods applied to managing organisations and these came to dominate the work of leading business schools from the 1950s onwards. Cognitively, the principal influence which enabled this general 'scientification' (Whitley, 1988: 642) to be extended to financial accounting research was accountancy's traditional use of marginalist economics to provide its theorisation, which made the adoption of economic theory generally difficult to resist. Other attractions in the US context were that neo-empiricism is compatible with a strongly capitalistic worldview (Reiter, 1998: 153–154) and utilises a 'ready made', pre-justified, methodology imported from finance, particularly comforting for an intellectually immature discipline (Gaffikin, 1988: 27) and especially one suffering from 'a professional inferiority complex' (Mattessich, 1995: 162; see also Hopwood, 2007: 1366).

Key features of neo-empiricism are the elegance of its methods, which is conceded even by its critics (Reiter, 1998: 152–153), and how little attention it gives to its epistemological stance and overarching theorisation. As Sterling (1990) points out, although Watts and Zimmerman's (1986) landmark exposition of positive accounting theory actually begins by stating, 'this book is about accounting theory' (p. 1), in fact only the first brief chapter (14 pages out of 362) is devoted to considering theory as such. Though demanding in the quantitative skills it requires, neo-empiricism is only lightly burdened with theoretical baggage, enabling those with the requisite technical skills to get rapidly down to work.

From a UK perspective, the importance of the rapid expansion of neo-empiricism in the USA is that it provided an attractive source of research questions and methods, ready made and now pre-justified twice over: Peasnell's 1981 survey

²⁴ Reiter (1998) cites seven studies, to which her own adds an eighth; see also Parker (2007) and Reiter and Williams (2002). For an alternative socially-based analysis of the demise of classical research, targeted principally at neo-empiricism, see Clarke et al. (1999).

described efficient markets research as 'intellectually impressive' twice within the same paragraph (1981: 107 and 108), giving reasons which included its 'impressive economic-statistical methodology ... the like of which is not to be found elsewhere in accounting' (1981: 108). Although the technical skills required by neo-empirical research are demanding, the nature of the programme offers extensive scope for using very similar research designs on new data (Daley, 1994: 44). This point is often made as a criticism but it actually offers significant opportunities for those with some quantitative skills but limited abilities and expertise in research design, especially given the broad similarity between UK and US financial systems.

Neo-empiricism was slow to get off the ground in the UK, partly, no doubt, because of the UK accounting academy's relative shortage of quantitative skills (Peasnell, 1981: 119–120). The delay meant that the programme began growing significantly only after its epistemological and methodological weaknesses had begun to be exposed – Peasnell's 1981 survey lists five 'limitations' (1981: 108–109). This must have helped in opening up the field to other theoretical perspectives. Because accounting departments in the UK are generally located in social science faculties rather than 'stand alone' business schools, radical ideas were not anathematised in the UK as in the USA. For entrants with a traditional background, radical theorising may have the appeal of exoticism, while those motivated to enter academic life by discomfort with practice may find its politics attractive. Each school within social theory offers a ready made, pre-justified approach for importation into financial accounting research. Each is, in its own terms, elegant and rigorous. As with neo-empiricism, a form of replication study can be undertaken, demonstrating that accountancy, like all other instruments of hegemony, works to exploit the subaltern classes, feed the will to power/truth, create textual meaning from nothingness, promote surveillance, discipline and punishment, and so on. As we have seen (Section 3.2), much radical accounting research appears to take this form.

6.2. External social factors

Beattie (2002) identifies a number of interactions between accounting practice and the theorisation of the classical programme but is able to draw only much more tenuous links between theory and practice since the social scientific turn. The only relevant developments in practice identified since the 1970s are cross-border harmonisation, the increasing importance of intangible assets and

greater concern with earnings management. Although these have focused attention on particular topics, Beattie does not suggest any intellectual advances resulting from them. Indeed, a major factor in explaining the character of the contemporary accounting academy in the UK is the almost total lack of any significant engagement between the accountancy profession and the scholarly community at the level of research (Arnold, 1989; Baxter, 1988; Dewing and Russell, 1998; Hopwood, 2007; Power, 2004; Whittington, 1986; Zeff, 1996).

Practitioners take little notice of post-classical research because it is perceived as having little relevance to their interests (Roslender and Dillard, 2003: 343; Whitley, 1988: 642–643).²⁵ Some commentators have argued that politically sophisticated practitioners are particularly comfortable about academic accountants pursuing post-classical research precisely because it does not present policy-relevant findings to those, such as regulators, who might be inclined to use them. Neo-empiricism deals with 'imaginary worlds of economic equilibria where information is true and costless and everyone acts "rationally"' and, consequently, 'current practices and conventions are not ... threatened by this sort of research because it does not deal with them' (Whitley, 1988: 642–643; see also Power, 2004: 377; Tinker, 1985: 205). Radical attacks on practice are regarded as too arcane to merit attention (Roslender and Dillard, 2003: 343). At the same time the weight of mathematicisation (in the case of neo-empiricism, Whitley, 1988: 641) or social theorisation (in the case of the radical programme) preserves post-classical work from informed criticism by the profession.

Even if uninterested in their results, practitioners might benignly aid academics by providing access to the sites on which accounting practice takes place but the level of such access is actually minimal, for sound business reasons (Bricker and Previts, 1990: 11–12; Howieson, 1996: 33; Kinney, 1989: 120–21). The production of financial statements is almost inevitably highly sensitive in any location about which there would be interesting things to be discovered and any data other than that actually produced (for example, using alternative accounting policies or measurement methods) would be expensive to prepare and also potentially highly sensitive (Peat Marwick Mitchell & Co., 1982: 89–90; Rutherford, 2007: 98). Poor access increases the

²⁵ Professional accountancy bodies do fund some academic research but the scale of funding is very modest by comparison with that available from sources favouring social scientific research (Wallace, 1997: 235–238).

attractiveness of programmes which do not require co-operation from practitioners.

6.3. *Internal social factors*

In 1986–1987, 66% of accounting staff in the older universities were professionally qualified (Wallace, 1997: 232–233) but between 1998 and 2003 only 30% of recruits to pre-1992 institutions held a CCAB qualification (Duff and Monk, 2006: 203). This decline in staff with a professional background, largely a reflection of increasing salary differentials between practice and academia (Brinn et al., 2001: 351; Wallace, 1997: 233) is linked by Otley (2002: 398) to a ‘dearth of policy- or business-oriented work’ in accounting (see also Beattie, 2005: 94). It reduces the number of researchers with advanced expertise in accounting techniques, familiarity with practical contexts, access to the tacit knowledge-base of accounting practice, credibility with practitioners as research subjects, and an interest in the problems which provide the material for classical accounting research.

A deterioration in research time, combined with pressures to increase output in quantitative terms (Gray et al., 2002; Humphrey et al., 1995; Parker and Guthrie, 2005; Puxty et al., 1994), has encouraged researchers to focus on the efficiency and effectiveness of research methodologies in delivering research products, primarily articles in learned journals. The methodologies of post-classical programmes offer a number of advantages. Availability of extensive, publicly accessible, data in machine-readable form, the potential for replication studies with limited methodological contribution, and the growth in cheap computational capacity, have greatly facilitated the production of neo-empirical articles (Whittington, 1981b: 131, 1986: 131) and made this form of research ‘low risk’ in that ‘validity of research outcomes ... becomes a technical matter rather than a conceptual or theoretical one’ (Whitley, 1988: 641–642). The radical programme can also enable articles to be produced reasonably speedily and with relatively low risk, for example by remaining within a narrow theoretical model with which the researcher is familiar for multiple projects, generating papers demonstrating that any particular theoretical position applies to accountancy, comparing details of two theoretical positions, and so on (Humphrey, 2001: 92–94; Wallace, 1997: 243). Neo-empirical research does not typically require access to unpublished data and this is also true of radical research conducted at the theoretical level or employing publicly available material as case studies. All in all, post-classical accounting

research methods are efficient and reliable at producing academic outputs compared to the traditional approach to research design in the classical programme, which is to start with a problem and search out methods to solve it (Zeff, 1989: 170).

Academic accounting in the UK has traditionally been located in social science faculties. The impact of this, primarily through the career and reward structures of institutions, combined, perhaps, with a feeling of inferiority in the face of the better established disciplines of mainstream social science (Wallace, 1997: 239), seems likely to be significant. Candidates for promotion generally have to compete with others, and will be judged by senior staff, from across the faculty. Research papers which resemble those of mainstream social science are likely to carry more weight (Wallace, 1997: 239).

Once classical research comes to be perceived as inferior, social control effects snowball. Editors seeking to improve the reputation of their journals may discourage acceptance of articles within the classical programme, if only at the margin of acceptability. Departments seeking to improve reputations and research assessment scores will prefer early career recruits who have the research training to begin immediately to publish in high quality journals – which is easier if undertaking post-classical work (Brinn et al., 2001: 350–351; Weetman, 1993) – and applicants with established careers who have published in such journals. Vice-chancellors seeking ‘research stars’ will look only at post-classical researchers.

7. Conclusion and implications

In the UK, the classical financial accounting research programme remained in good health into the 1980s, well after it had been eradicated in the USA. But American developments robbed the UK’s classical programme of a powerful source of intellectual nourishment while providing an alternative approach of great attractiveness. British pluralism enabled both neo-empiricism and radical research to flourish but the classical programme itself has died out, as a consequence, I argue, of sociological features of the academy. I have not set out to deny the legitimacy of post-classical research which has, indeed, had some successes, for example, in influencing the way the relationship between accounting numbers and share prices is characterised (neo-empiricism) and the development of social responsibility accounting (radicalism). I seek merely to demonstrate that, neither by its fruitfulness in generating innovative and relevant findings nor by incontestable epistemological superiority, does post-classical research justify the

elimination of the classical programme: contemporary research programmes mark a turn to mainstream social science rather than a progressive development. This turn took place, not directly in response to the call for empirical research by Nelson and others, but only as such of the initial responses to this call as continued to address the traditional objects of inquiry of financial accounting research (namely accounting systems as systems), and in particular, the predictive ability project, came to be abandoned. In the face of the difficulties which researchers using social scientific methods encountered in addressing the traditional objects of inquiry of financial accounting research, the accounting academy retained the methods and rejected the objects of inquiry.

The light cast on the turn to social science by this paper suggests that the financial accounting research community may have been premature in its abandonment of classicism – that there may be life yet in the programme and in the activity directed at the traditional objects of inquiry of accounting research that it permits. It might be objected that the classical programme in its heyday was no more fruitful than others have been since. Certainly the profession's deep suspicion of any intellectual approach to its discipline (Stamp and Marley, 1970: 113–114; Wallace, 1997: 233–235) places a limit on its absorption of research outputs. However, significant contributions have been made to accounting practice by the classical programme.

Among the academic advances with a significant impact on accounting practice identified by Baxter, in his monograph reflecting on the relationship between academic research and practical needs, was the development of current cost accounting (Baxter, 1988: 4). During the 1970s and 1980s, while the UK profession struggled to adapt traditional financial reporting to cope with substantial levels of inflation, there was a significant demand both for the outputs of previous classical research in the area and for further research conducted by classical methods. The models employed in the development of practical solutions to accounting under inflation were essentially the products of academic theorists working within the classical programme (Tweedie and Whittington, 1984: especially chapters 2–3). Additional developmental activity included both further *a priori* theorising responding to lacunae in the basic models, for example on the issue of physical versus monetary capital maintenance (see, for example, Tweedie and Whittington, 1985) and empirical work – largely carried out without heavy mathematicisation – to investigate the usefulness of

current cost accounting (see, for example, Carsberg and Page, 1984). These contributions became redundant as a result of 'the end of the current cost revolution' in the late 1980s (Tweedie and Whittington, 1997) but they demonstrate the capacity of classical work to contribute to accounting practice.

A second contribution came about as a result of the increasing importance in accounting standardisation of an approach based on a conceptual framework, dating, in the UK, from 1988 onwards (Rutherford, 2007: 261–264). The UK's framework is strongly derived from the original, US, project (Rutherford, 2000: 5), which, itself, drew heavily on classical theorising, as any account of the evolution of the project makes clear (Gore, 1992; Solomons, 1986; Storey and Storey, 1998). The move to a more conceptually rigorous approach to standardisation might have been expected to generate significant demand for classical accounting research and, indeed, UK standard-setters have called for research inputs from the academic community, though they generally complain that few are received (Rutherford, 2007: 113–114; Wallace, 1997: 245–246; Whittington, 1995). This is hardly surprising since, ironically, demand grew significant only as the classical programme was rapidly dying.

It has long been accepted that there is a schism in the USA between accounting practice and academic accounting research (Bricker and Previts, 1990); some commentators identify a similar schism in the UK (Baxter, 1988; Dewing and Russell, 1998; Wallace, 1997). Though by no means the only cause of this schism, the turn to mainstream social science is a major contributory factor.²⁶ The schism appears unique to anglophone countries – it is apparent in Australia (Howieson, 1996) but not in Germany (Power, 2004: 382) – and to accountancy. Adopting social scientific methods in some of its programmes has not resulted in the legal academy abandoning doctrinal legal studies and sociology departments embracing social theory nonetheless conduct research considered useful by social policy analysts.

Reopening space for classical research may help to mend the schism and enable the academy to make

²⁶ This point is made graphically by Sterling (1990: 117–118) in his withering comments on positive accounting theory. He cites one theorist's view that it is preferable to teach positive accounting theory because accounting methods change rapidly as accounting standards are revised: better for students to understand why companies choose particular accounting procedures. Would you, he asks, want your medical operation performed by a practitioner who had been trained, not in surgical procedures, but in why surgeons choose the procedures they do, perhaps to maximise their own utility or caught in the grip of their profession's will to truth?

a contribution to accounting practice once again, providing an intellectually rewarding pathway for researchers keen to engage with accounting systems as technical systems. As suggested above, the increasing importance of conceptually-based accounting standardisation, especially combined with the growing complexity of substantive topics, offers opportunities for classical research; indeed the discussion documents of standard-setters grow increasingly to resemble the normative theorising previously produced within the academic community (see, for example, IASB, 2005). Current economic developments suggest that recent price stability may be coming to an end, perhaps raising again demand for classical research in price change accounting.

In making a contribution to practice, academics will bring their traditional strengths of theoretical sophistication, multidisciplinary, rigour, disinterestedness and ability to take the long view, strengths which give them a comparative advantage over practitioners in theorisation and will, it is to be hoped, enable them to improve the overall social functioning of accountancy. Practitioners' traditional suspicion of intellectualism is reflected in some quarters in attitudes to conceptually-based standardisation but the approach seems fairly well embedded and may help to encourage at least leaders of the profession to be more open to theoretical debate.

Among the developments which a resurgence in the classical programme could usefully embrace are further exploration of its underlying epistemological position;²⁷ the (re)introduction of the methodology of classical research into the research training of new entrants to academia; and the establishment of one or more journals devoted to classical research. Research training might be provided, at least initially, by means of the coverage of accounting theory and the history of accounting thought and practice that, as Zeff (1989: 170) points out, was the traditional route to an appreciation of classical methods but has been squeezed out of the curricu-

lum by the demand for training in current practice at the undergraduate level and social science research methods at the postgraduate level. Perhaps funding for a journal devoted to classical accounting research might be available from a professional body or large professional firm.

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²⁷ One possible line of development here would draw on classical American pragmatist philosophy. Work in this direction was undertaken during the 1960s (Beams, 1969; Deinzer, 1965, 1966; Dopuch, 1962) but, not surprisingly, petered out with the demise of the classical programme. Pragmatism shares with postmodernism a rejection of the foundationalist project of 'knowing things as they really are' but, whereas 'postmodernism ... celebrates ... the fragmentary, the incoherent, the irrational, and the paradoxical', pragmatism 'focuses on ... "what works"' (Bix, 2003: 245; see also Putnam, 1995). Such an approach holds out the promise of enabling financial accounting theorists to synthesise aspects of classical and post-classical methods to achieve a higher level of awareness and understanding.

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International differences in IFRS policy choice: a research note

Erlend Kvaal and Christopher Nobes*

Abstract — Building on literature that suggests motives and opportunities for national versions of IFRS practice, we examine whether there are systematic differences in IFRS accounting policies between countries. Using information from the annual reports of companies in the blue chip indices of the largest five stock markets that use IFRS, we reject a null hypothesis that IFRS practice is the same across countries. For 16 accounting policy issues, we find instead significant evidence that pre-IFRS national practice continues where this is allowed within IFRS. By this, we document the existence of national patterns of accounting within IFRS. We also point out some policy implications that arise from our findings.

Keywords: international standards; international differences; policy choice

1. Introduction

It has been suggested that there are motives and opportunities for the survival of international differences under International Financial Reporting Standards (IFRS) (Ball, 2006; Nobes, 2006; Zeff, 2007). This paper seeks to answer two questions relating to this. First, are there systematic differences between countries with respect to the accounting policies that companies use within IFRS, so that one can identify national IFRS patterns? Second, if there are, can we explain how policies were chosen on transition to IFRS?

We investigate these questions using the 2005–06 IFRS annual reports of companies based in five countries: Australia, France, Germany, Spain and the UK. In all these countries, IFRS is compulsory,¹ at least for the consolidated statements of listed companies. Strictly speaking, it is EU-endorsed IFRS² that is compulsory for the EU companies, and IFRS-based Australian standards that are compulsory in Australia. This point presents one of the drivers of different practices. Other opportunities for variety arise from options clearly available within IFRS, and we concentrate on

these. Given the motives and opportunities for national versions of IFRS, we expect to find such differences in practice.

This paper contributes to the literature in a number of ways. First, we document formally that there are different national versions of IFRS practice. Related to this, we show that companies not only have an opportunity to pursue pre-IFRS practices originating in their national GAAP,³ but also extensively use this opportunity.

These findings are important for several reasons. For financial statement users, they imply that full international comparability has not yet arrived. Therefore, it has been suggested, investors might be misled by an apparent uniformity (Ball, 2006: 15). As long as accounting standards contain options and require use of judgment, some variation in accounting practice is inevitable. However, the existence of systematic differences in practice related to national borderlines is clearly in conflict with the objective of international harmonisation and may mislead financial statement users who do not pay attention to them. Some differences within IFRS practice are observable and can be adjusted for by alert analysts (e.g. the location of dividends in a cash flow statement); other differences are easily observable but cannot be adjusted for without a large degree of estimation (e.g. the effects of the

*Erlend Kvaal is at the Norwegian School of Management, BI and Christopher Nobes is at Royal Holloway, University of London.

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Correspondence should be addressed to: Prof. C.W. Nobes, School of Management, Royal Holloway, Egham TW20 0EX, UK. E-mail: chris.nobes@rhul.ac.uk.

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¹ In some countries, e.g. Germany, certain companies were allowed to wait until 2007. However, no companies that took advantage of this have been included in our study.

² The main difference between IFRS and EU-endorsed IFRS is greater permission to use hedge accounting in the latter. There are also lags in endorsement. However, none of these differences affects our study.

³ We use this acronym to mean 'generally accepted accounting practices', i.e. those practices that result from national requirements or from predominant choices.

inventory flow method on profit, or the absence of a gross profit figure in a by-nature income statement); yet others are not observable (e.g. the application of criteria for making impairments or for capitalising development costs). Some users of financial statements might be misled by even the first type of differences, but many might be misled by the third type. The second and third types create difficulties for international comparative analysis.

There are also policy implications. First, the IASB aims not just to issue standards but to facilitate comparable information (IASCF, 2005). This paper illustrates topics on which more work would be needed to achieve this objective. Second, the Securities and Exchange Commission (SEC) is monitoring the use of IFRS for foreign registrants on US exchanges (SEC, 2008, II, D). Part of this consideration includes an assessment of IFRS practice from 2005, but we show that there are several national versions of IFRS practice.

The paper proceeds as follows: Section 2 summarises relevant literature; Section 3 draws on this to state our main hypothesis and outline our research design; Section 4 explains our selection of countries, companies and accounting topics for this; Sections 5 and 6 present detailed hypotheses and results; and Section 7 draws interpretations and conclusions.

2. Literature

One strand of literature that is relevant to what follows is research on the motives and opportunities for international differences in accounting before the adoption of IFRS. This is examined in many papers and textbooks. The objective of our paper is not to try to explain pre-IFRS accounting differences. We ask, instead, whether there is evidence that country-specific variables affect choices within IFRS. To our knowledge there is no scientific literature that addresses this issue.

Nobes (2006) summarises the literature on the reasons for pre-IFRS accounting differences, asking whether these reasons might continue to operate in the context of transition to IFRS. A large number of factors has been proposed as pre-IFRS influences. The most proximate to accounting itself are legal systems, taxation systems and financing systems. These could still be relevant to IFRS practice. As examples of the three influences in turn: monitoring and enforcement of IFRS still depends on national regulatory institutions; tax motivations can still affect practice in unconsolidated statements, and some of this might flow through to consolidated statements; and companies in equity-finance coun-

tries might be the more interested in voluntary disclosures.

The national literature on IFRS is also likely to perpetuate national practices (e.g. PwC (2005) on formats).⁴ Ball (2006: 15) suggests about IFRS that:

‘The fundamental reason for being sceptical about uniformity of implementation in practice is that the incentives of preparers (managers) and enforcers (auditors, courts, regulators, boards, block shareholders, politicians, analysts, rating agencies, the press) remain primarily local.’

Commentators sometimes even argue in favour of attempting to preserve a national flavour of IFRS (Kütting, 2007: 2557).

The international differences in accounting policies that we study mostly result from companies’ policy choices, and research on this subject is potentially relevant to our work. Much of it is directed at revealing the incentives and motivations of such choices, e.g. in the context of earnings management (for comprehensive literature reviews, see Healy and Wahlen, 1999; Fields et al., 2001). These perspectives are not so important for the policy choices studied in this paper, because only a few of our issues (pension accounting, fair value option) affect the inter-period allocation of net income. Closer to our study is the research that explores the causes and effects of companies’ adopting high-quality GAAP. It is often argued that companies accept the costs of such adoption in order to reduce their cost of capital (Leuz and Verrecchia, 2000; Ashbaugh and Pincus, 2001; Cuijpers and Buijink, 2005). Although there is ample evidence that voluntary adoption of IFRS has enhanced accounting quality (Barth et al., 2006; Gassen and Sellhorn, 2006), the benefits of mandatory adoption are more doubtful (Daske et al., 2007; Christensen et al., 2008). The importance of an adequate institutional framework for reporting incentives has also been emphasised (Ball, 2001; Ball et al., 2000; Bushman and Piotroski, 2006). Although this paper does not address the extent to which companies reap the rewards of IFRS reporting, the tendency to preserve national practice that we document may be one of the phenomena that limit the benefits of common reporting requirements.

There is some professional literature on IFRS practices from 2005 onwards. KPMG and von Keitz (2006) focus on 199 IFRS reports of the largest

⁴ This publication shows a financial position form of balance sheet (like Format 1 in the UK Companies Act) as an example of IFRS practice.

companies of ten countries (seven of them in the EU), using year-ends of 2005 or before. The use of those year-ends excludes the first implementation by many UK companies,⁵ and also means that countries such as Australia⁶ were excluded. The KPMG study reports on the choice of options, in some cases including a breakdown by country. However, that study is not designed to produce a formal comparison of practices between countries. ICAEW (2007) reports on a survey of 200 listed companies of all sizes across 24 EU countries for 2005–06. A similar report for 2006–2007 has also been published (European Commission, 2008). In general, the data in these reports on the choice of options are aggregated rather than shown by country, although there are some exceptions to that.

There is also some literature that records pre-IFRS national practices (rather than investigating motives for international differences in them) and the differences between national GAAP and IFRS. To explore this, we have consulted national laws and standards, and analyses of them, such as TRANSACC (2001). We have also looked at surveys of practice, such as FEE (1991). Differences between national rules and IFRS were analysed by Nobes (2001), whose data form the basis of a study of factors influencing the scale of these differences by Ding et al. (2007).

3. General hypothesis and research design

The differences in IFRS practice that we study relate to policy choices. We base our hypotheses on the literature (of the previous section) that suggests that companies tend to continue with their previous national practices where this is possible under IFRS. However, we note that there are four distinguishable reasons for this. First, as explained above, the underlying causes of previous differences between national accounting practices (such as enforcement systems) may still have scope to affect IFRS practice. Essentially, many drivers of policy choice remain national. Second, and relatedly, IFRS consolidated statements are drawn up from unconsolidated statements. So, for example, the practices required or chosen in the unconsolidated financial statements of a German parent or a German subsidiary under German law might flow through to the consolidated IFRS financial statements where the practices are permitted under IFRS. A third reason is that directors of a group might try to maintain consistent accounting policies over time,

despite the transition to IFRS, so as to create as much continuity as possible for the users of the financial statements. Fourth, and relatedly, the directors might wish to minimise the number of changes to their accounting systems, thereby reducing the company's costs of transition to IFRS, by retaining pre-IFRS practices where possible.

A potential explanation for a particular predominant pre-IFRS policy in a country might be the importance of certain sectors in that country. For example, perhaps a particular sector mostly uses first in, first out (FIFO) inventory valuation whichever country it is in, and this sector is especially strong in one country, making FIFO more than averagely common there. Our prediction is that FIFO would continue to be common in that country under IFRS. However, this might mean that the option was not being chosen in a way that reduced international comparability among similar companies. Nevertheless, as will be shown, many of the international differences are so strong that sectoral imbalances cannot explain them. For example, no German company in our sample uses only FIFO in its IFRS statements whereas half of the UK companies do.

In order to discover whether internationally different versions of IFRS practice exist, we selected large companies from five major stock markets and examined their IFRS policies for 16 issues. We propose the following null hypothesis: IFRS practice is the same across all countries. We test the null hypothesis against an alternative of non-homogeneity by chi-square tests for each topic. We further test the validity of the null hypothesis against a number of alternative hypotheses that predict national practice relating to each issue. The predictions implied in the alternative hypotheses are based on our presumption that companies, in the absence of strong incentives to do otherwise, will pursue a policy previously adopted if it is still allowed. We by no means exclude a company-specific motivation for any choices previously made under the national GAAP (see Section 2), but our focus is only on the company's behaviour on transition to IFRS.

4. Selection of countries, companies and policy issues

Nobes (2006) suggests a series of hypotheses about international differences under IFRS, mainly expressed by using Germany and the UK as exemplars of previously different accounting 'systems'. We study companies from these two countries, but add Australia, France and Spain. The rationale for this list of five is that, of the countries

⁵ Many UK companies do not have 31 December year-ends, so their first IFRS reports related to years ending in 2006.

⁶ Australian usage of IFRS began, for most companies, on 1 July 2005.

Table 1
Country and sector* distribution

	<i>Australia</i>	<i>UK</i>	<i>France</i>	<i>Spain</i>	<i>Germany</i>
0 Oil and gas	3	4	1	1	0
1 Basic materials	6	10	1	2	3
2 Industrials	5	6	7	8	3
3 Consumer goods	1	12	7	1	5
4 Health care	2	5	2	0	1
5 Consumer services	8	22	6	6	3
6 Telecommunications	1	3	1	1	1
7 Utilities	1	9	4	5	1
8 Financials	17	26	4	7	6
9 Technology	0	1	2	1	0
Total	44	98	35	32	23

* Sectors according to Industry Classification Benchmark.

where IFRS are compulsory for listed companies, they had the five largest stock markets.⁷

Australia is different from the other four countries in not being a member of the EU. We do not expect that, by itself, to cause differences in IFRS practice.⁸ However, one particular feature of Australian IFRS is relevant here: for two of the 16 accounting issues that we study, there was no option in Australian IFRS in 2005–2006. So, Australian policies on these issues in that period were not choices. Nevertheless, the requirements in Australian IFRS continued previous national requirements, so this is consistent with our general hypothesis that IFRS practice will preserve national practice. Further, the IFRS options were re-inserted in Australia for 2007–2008 reports onwards, so we investigate whether Australian companies continue with the ‘Australian’ policies on these two issues even when they are not required to.

From each of the five countries, we select the largest listed companies by examining the members of the ‘blue chip’ indices, respectively the ASX 50, CAC 40, DAX 30, IBEX 35 and FTSE 100. To some extent, the different number of companies in the indices adjusts for differences in the size of stock markets. We exclude foreign⁹ companies and those that do not use IFRS. The only country for

which the last point was a significant issue was Germany where seven of the DAX 30 used US GAAP. After these exclusions, we have a sample of 232 IFRS reports. This is a much larger set of companies for our five countries than used by KPMG and von Keitz (2006) or by ICAEW (2007). Also, our sample is a complete set of domestic IFRS reporters in the indices, whereas the samples in the professional studies are likely to suffer from some selection bias, as already noted. Table 1 shows the sectoral distribution of the sample companies, analysed by country.

The selection of large companies is justified for both conceptual and practical reasons. Large companies are probably more attentive than smaller companies to the requirements and expectations of the global investor community (e.g. Chaplinsky and Ramchand, 2000; Wu and Kwok, 2002). Therefore, international notions about ‘best practice’ under IFRS will spread more rapidly among the large companies. For that reason, whenever we observe national differences in practice among the largest companies, we expect that similar differences exist among smaller firms, which are less likely to feel international influences. For the topics discussed in this paper, we can make inferences from the samples of large companies to the whole IFRS-reporting population that we could not make as easily the other way round.

As noted earlier, sectoral issues affect some accounting policies. For example, in the EU there are three different versions¹⁰ of the Fourth Directive (for banks, insurance companies and others) which

⁷ For example, see data from the World Federation of Exchanges, as at June 2005.

⁸ As explained earlier, the difference between EU-IFRS and IFRS on the subject of IAS 39 is not relevant in our study.

⁹ We define ‘foreign’ as meaning not legally registered in the country. That is, for example, we exclude from the French sample Belgian-registered companies that prepare IFRS statements in the context of Belgian law. We exclude Rio Tinto from the Australian sample because it is also in the FTSE 100 and prepares IFRS statements in the context of UK law. We also exclude AXA Asia Pacific from the Australian sample because it is a subsidiary of AXA (France).

¹⁰ The Directives for banks (1986) and insurance companies (1991) are derived from the fourth company law Directive ‘on the annual accounts of certain types of companies’ of 1978.

Table 2
IFRS policy choices

- 1 (a) income statement by function
(b) by nature
(c) neither
- 2 (a) inclusion of a line for EBIT or operating profit
(b) no such line
- 3 (a) equity accounting results included in 'operating'
(b) immediately after
(c) after finance
- 4 (a) balance sheet shows assets = credits
(b) showing net assets
- 5 (a) liquidity decreasing in balance sheet (cash at top)
(b) liquidity increasing
- 6 (a) Statement of Changes in Equity, including dividends and share issues
(b) SORIE, not including them
- 7 (a) direct operating cash flows
(b) indirect
- 8 (a) dividends received shown as operating cash flow
(b) as investing
- 9 (a) interest paid shown as operating cash flow
(b) as financing
- 10 (a) only cost for PPE
(b) some fair value
- 11 (a) investment property at cost
(b) at fair value
- 12 (a) some designation of financial assets at fair value
(b) none
- 13 (a) capitalisation of interest on construction
(b) expensing
- 14 (a) FIFO for inventory cost
(b) weighted average
- 15 (a) actuarial gains and losses to SORIE
(b) to income in full
(c) corridor
- 16 (a) proportional consolidation of some joint ventures
(b) only equity method



contain pre-IFRS requirements on many presentation and policy issues. For such (and other) reasons, many empirical studies exclude banks and other financial institutions. As a result, these companies are under-researched. We include them. However,

for several of the policy issues that we study, it is obviously appropriate to treat the banks or financial institutions separately.

We examine the annual reports for 2005–2006, that is those relating to accounting years starting in

2005. Many of these years begin on 1 January, but some UK companies have chosen other dates (especially 1 April), and many Australian companies use 1 July. The 2005–2006 reports were the first for which IFRS was compulsory¹¹ in our five countries, and they were also the last full set available¹² when we collected our data. All the companies were subject to the same requirements, as there were no changes to IFRS in this period.

Nobes (2006) identifies eight types of opportunity for international variations in IFRS practice: different versions of IFRS; different translations of IFRS; gaps in IFRS; overt options; covert options; measurement estimations; transitional issues; and imperfect enforcement. For several of these, detailed lists are provided: e.g. 18 overt options, 21 covert options. From these lists, we identified all the issues¹³ for which data are observable in published annual reports. The resulting 16 issues of accounting policy are shown as Table 2. Nine of these relate to presentation and seven to measurement. Of the presentation issues, some are cosmetic (such as issues 4, 5 and 6), whereas others (such as issues 2, 3, 8 and 9) directly affect the content of key items within the income and cash flow statements. For our purpose, it is important to collect all the available information on international differences in IFRS policies. This is because on some other major issues, e.g. the criteria for assessing impairments (Ball, 2006: 17), it is not possible to detect and measure differences. The more that we can demonstrate systematic international differences for issues that can be observed (however important or otherwise), the more we can be confident that there will be differences for important issues that cannot be observed.

¹¹ Of our five countries, only Germany contained companies voluntarily using IFRS immediately prior to 2005. A majority of our sample of German companies used IFRS before 2005. However, we do not anticipate that this would affect policy choices except where new options were introduced in 2005 or shortly before. In our list of policy areas, the only new option was to take actuarial gains and losses to the SORIE, introduced in 2005. It is therefore possible that this recent option was more likely to be ignored by German companies. However, this is still a country-specific factor.

¹² For example, reports for years ending in November 2007 were not available until well into 2008. We collected data during the second half of 2007.

¹³ The 16 issues are all 'overt options'. We excluded six issues from Table 1 of Nobes (2006) because they related to unconsolidated statements (the options in IASs 27, 28 and 31 concerning investor statements) or to rare issues on which little or no data was available (commodity broker traders (IAS 2), government grants (IAS 20) and revaluation of intangibles (IAS 38)). Similarly, it is not possible to gauge the use of 'covert options' by using published annual reports. However, a few of the overt options in Nobes (2006) cover several issues (e.g. the treatments of interest and dividends in cash flow statements). So we have separated them.

Our policy issues are not, of course, a random selection. They are deliberately chosen as those for which IFRS offers a choice and for which the chosen policy is observable. We are not claiming that the adoption of IFRS has led to no standardisation of practice. We are investigating whether there remain substantial systematic international differences in practice even under IFRS.

The data relating to the 16 accounting policy issues of Table 2 are not available on any database and were hand-picked from the annual reports¹⁴ for the 232 companies in our sample. For many of the issues, a full set of data was obtained. For a few issues no data were available for some companies,¹⁵ because the issue did not apply or because of poor disclosure.

5. Hypotheses

As explained in Section 3 we have a general null hypothesis of similar IFRS practice across countries that we analyse by a chi-square test. In addition, we make pair-wise comparisons between countries on all of the 16 issues covered by our study. The hypotheses underlying these comparisons are explained below. Our expectation is that pre-IFRS national practices will continue. We briefly review these practices and then set out our predictions for the 16 issues of Table 2. In nearly all of our hypotheses below, the pre-IFRS practices that we refer to result from national requirements. We assume that practices conformed with requirements (especially for these easily visible practices of listed companies, which were all audited by Big Four audit firms). In three cases (issue 13 for Spain, and issues 4 and 14 for the UK), we refer to predominant pre-IFRS practice. Strictly speaking, we should refer, company by company, to the actual pre-IFRS practices. So, in Section 6, we do ask whether particular companies continued with their pre-IFRS policies, but that detailed approach is not necessary for the general prediction of the IFRS practices of companies.

1. *Presentation of income statements (non-financials)*. The Spanish law of 1989 sets out a by-nature format for the income statement. By contrast, the pre-IFRS rules in all the other countries allowed by-nature or by-function. We therefore predict for IFRS practice that:

H1: Spanish companies are more inclined than

¹⁴ We used the English language reports in all cases, but we do not expect that this would affect our data.

¹⁵ See the 'N' numbers in Table 3.

others to use the by-nature format of the income statement.

This is an important issue for analysis because it is not possible for users to obtain the same information¹⁶ from the two different formats.

2. *Operating profit shown (non-financials)*. Pre-IFRS national regulations on formats differ on whether a sub-total for 'operating profit' should be shown. There is such a line in the French *plan comptable général* (section I.III.III) and in the Spanish plan derived from it. Similarly, the formats found in the German *Handelsgesetzbuch* (HGB § 275) and the UK Companies Act¹⁷ show operating items (specifically thus labelled) separately from others, although without specifically showing the subtotal. By contrast, there were no such headings or subtotals in Australia in ASRB 1018 (para. 4.1).

We therefore predict:

H2: Australian companies are less likely than other companies to show a line for operating profit.

3. *Treatment of equity-accounted profits (non-financials)*. IAS 1 has few format requirements for the income statement. However, its non-mandatory implementation guidance shows equity-accounted profit after finance costs and therefore outside of operating profit. The same applies to the French *plan comptable général* (Appendix to Chapter IV) and the related Spanish requirements. By contrast, the German HGB (§ 275) and the UK standard (FRS 9) show such profits after operating but before finance items. There has been no clear tradition in Australia. Many Australian companies do not show an 'operating' heading (see 2 above). Pre-IFRS guidance from AASB 1018 (para. 4.1) showed equity-accounted profits after finance costs, as do IFRS illustrations¹⁸ from Australian audit firms.

Given that the French and Spanish national requirements show equity-accounted profits lower down the income statement than in the other countries which have a concept of 'operating', and given that only in those countries are the requirements mandatory (for non-IFRS reporting), we predict:

H3: French and Spanish companies are more inclined than others to show equity-accounted profits after finance items.

4. *Presentation of balance sheets (non-financials)*. The pre-IFRS requirement in Australia was in the Corporations Law (and AASB 1034) which specified a format that showed 'net assets' but no total of credit balances such as total shareholders' funds and liabilities. The same applied in Format 1 of the UK *Companies Act 1985* (CA 1985), which also showed 'net current assets' and did not show total assets. This was the predominant format used in practice (Gordon and Gray, 1994: 76; and our own survey of pre-IFRS policies of our companies, discussed later). These can be called 'financial position' formats, although the UK's was a purer form.

By contrast, the accounting plans of France and Spain showed a two-sided T-account format, and the German *Handelsgesetzbuch* (HGB § 266) had a vertical version of this. In all three continental cases, there is no heading for 'net assets' but there is a heading for the total of the credit balances.

We therefore predict:

H4: Australian and UK companies are more inclined than others to use a version of a financial position format.

5. *Liquidity order (non-financials)*. The pre-IFRS regulations for balance sheets (referred to above) show items in order of decreasing liquidity in Australia but (except for banks) increasing liquidity in the other four countries. Therefore, we predict:

H5: Australian companies are more inclined than others to present liquidity-decreasing balance sheets.

6. *Statement of changes in equity*. Only in the UK did pre-IFRS rules (FRS 3) require a performance statement in addition to the income statement. This UK statement was the model for IAS 1's statement of recognised income and expense (SORIE) – equivalent to the 'other comprehensive income' of a later version of IAS 1 – as opposed to the alternative statement of changes in equity of IAS 1 (para. 97).¹⁹ So, we predict:

H6: UK companies are more inclined than others to present a SORIE.

7. *Method of calculation of operating cash flow*. Pre-IFRS rules on cash flow statements were

¹⁶ For example, gross profit cannot be calculated from the by-nature format.

¹⁷ Schedule 4 to CA 1985, now replaced by 'Company Regulations' in Statutory Instruments.

¹⁸ For example, KPMG's *Reporting Under Australian Accounting Standards*, Example Public Company Limited (for 2007), p. 21; and PwC's *Value AIFRS Holdings*, p. 63.

¹⁹ We refer to the version of IAS 1 in force in 2005 and 2006.

lacking in detail in Germany and were noticeably different from IAS 7 in France, Spain and the UK. However, only in Australia was the direct method required (AASB 1026) and this found its way into the Australian version²⁰ of IAS 7 that was in force in 2005–2006. However, IAS 7's choice of the indirect method was re-inserted into the version in force in 2007–2008, so we used data for that period for the Australian companies (typically periods ending on 30 June 2008). Given that the direct method is more onerous for preparers, we predict a continued²¹ avoidance of it elsewhere:

H7: Australian companies are more inclined than others to use the direct method to calculate operating cash flows.

8/9. Presentation of dividends received and interest paid in cash flow statements (non-financials). IAS 7 (para. 33) suggests that dividends received might be either operating or investing flows and that interest paid might be either operating or financing, except that financial companies 'usually' treat them both as operating. In the UK, FRS 1 (para. 14) requires both dividends received²² and interest paid to be shown as 'returns on investments and servicing of finance'. In Australia, AASB 1026 (para. 7.1) required both cash flows to be shown as operating. The French requirement²³ for consolidated statements is also to show both dividends received and interest paid as operating. There is no requirement for a cash flow statement in Spain; rather the law²⁴ requires a statement of sources and applications of funds. In Germany, cash flow statements are required for listed companies (from 1999 onwards) but the pre-IFRS rules lack detail.

There is therefore no clear national practice for Germany or Spain, but we can predict:

H8: UK companies are less likely than Australian or French ones to show dividends received as operating.

H9: UK companies are less likely than Australian or French ones to show interest paid as operating.

10. Use of fair value to measure property, plant and equipment (PPE). Pre-IFRS requirements in France, Germany and Spain were to base measurement on

historical cost except for occasional revaluations in France and Spain according to government regulations (TRANSACC, 2001: 1162, 2263). Only in Australia (AASB 1041) and the UK (FRS 15) was revaluation freely allowed. We predict:

H10: Australian and UK companies are more inclined than others to measure PPE at fair value.

11. Use of fair value to measure investment property. As for other PPE (above), pre-IFRS requirements in France, Germany and Spain were generally to measure investment property on a cost basis. However, as for other PPE, there was an option to use fair value in Australia. By contrast, continuous valuation²⁵ is required under UK GAAP by SSAP 19. We therefore predict:

H11: The tendency to measure investment property at fair value will be found in decreasing order in the UK, Australia and continental Europe.

12. Designation of financial assets to fair value (non-financials). Pre-IFRS requirements concerning the measurement of financial assets by non-financial companies differed by country. German law required measurement at cost or lower for all assets (HGB § 253). French and Spanish accounting laws were less resolutely opposed to measurement above cost,²⁶ so we use Germany in the hypothesis below. UK law allowed various versions of market value (CA 1985, Sch. 4, para. 31). UK standards and Australian law and standards had no requirements in this area. We therefore predict for non-financial companies:

H12: Australian and UK companies are more inclined than German companies to designate financial assets to fair value.

Financial institutions had different laws (for example, different Directives; see Section 4 and Hypothesis 5) allowing marking to market. We do not test hypotheses for financial institutions because of the small number of such companies in our sample of continental countries.

13. Interest capitalisation. The pre-IFRS requirement in Australia was to capitalise interest (AASB 1036). In Spain, the ICAC Resolution of 30 July 1991 deals with the issue in some detail, and it was

²⁰ That ruling in 2005–2006.

²¹ For example, all our UK companies used the indirect method under UK GAAP in 2004–2005; see discussion later.

²² Except that dividends received from associates and joint ventures are shown separately, also outside of operating.

²³ Second Methodology, § 426.

²⁴ Law 19/1989.

²⁵ SSAP 19 (para. 11) requires measurement at 'open market value' which is similar to fair value.

²⁶ For example, revaluations of various assets were required for listed companies in France in 1978 and in Spain in 1996.

almost universal pre-IFRS practice of our companies.²⁷ By contrast, in the other three countries, capitalisation of interest was allowed²⁸ but was not covered in detail in the regulations and was less common.²⁹ We predict:

H13: Australian and Spanish companies are more inclined than others to capitalise borrowing costs on construction.

14. *Inventory flow assumptions (non-financials).* Excluding consideration of last in, first out (LIFO) (which is not allowed in IAS 2), the UK and Germany stand out as having predominant flow assumptions in pre-IFRS national practice. In the UK, FIFO was the normal practice (FEE, 1991: 164; as also confirmed in our own survey of pre-IFRS policies). In Germany, weighted average was generally required by tax law (TRANSACC, 2001: 1293). In Spain, although there was no legal favouring of weighted average, there was also evidence of a clear pre-IFRS preference for it (FEE, 1991: 167; Gonzalo and Gallizo, 1992: 114). In the other two countries, no predominant basis was clear. We therefore predict:

H14A: German companies are more inclined than others (except Spanish) to use weighted average only.

H14B: UK companies are more inclined than others to use FIFO only.

15. *Actuarial gains and losses.* Most German DAX companies were already using IFRS before 2005 when an extra option was added to IAS 19 (para. 93A) to allow actuarial gains and losses to be taken in full to the SORIE. Therefore, they were already using the corridor approach (IAS 19.92/93). By contrast, the pre-IFRS requirement in the UK (under FRS 17) was the same as the SORIE option. Neither of these options was available in the laws of the other three countries. So, we predict:

H15A: German companies are more inclined than others to use the corridor approach.

H15B: UK companies are more inclined than others to use the SORIE approach.

²⁷ We surveyed the 2004 annual reports for the companies that specified their practice in 2005. Of the 17 companies, 16 capitalised interest, and one company capitalised some interest.

²⁸ For example, by AktG § 255(3) in Germany, or CA 1985, Sch. 4, para. 26(3)(b) in the UK.

²⁹ For example, our survey of UK reports of 2004–2005 showed that 35% of companies disclosed a policy of capitalisation. Only 13% disclosed a policy of non-capitalisation, but our expectation is that this would have been the policy of the non-disclosers.

16. *Proportional consolidation.* Pre-IFRS rules in Australia (AASB 1006) and the UK (FRS 9) did not allow proportional consolidation of interests in joint venture entities. By contrast, pre-IFRS French regulations required proportional consolidation (*Loi sur les Sociétés Commerciales*, Art. 357-3). In Spain, the method was required³⁰ in some industries and common in others (Gonzalo and Gallizo, 1992: 168). In Germany, proportional consolidation was allowed and used by some groups (TRANSACC, 2001: 1389). However, it was not typical practice, as it had been banned in Germany until 1987. We, therefore, predict:

H16: The tendency to use proportional consolidation is found in the following countries in decreasing order: France, Spain, Germany, UK and Australia.

As in policy issue 7 above, there is a complication with the data for Australia. In the Australian 2005–2006 version of IFRS (i.e. AASB 131 in this case), the proportional option in IAS 31.30 was deleted. So we cannot measure policy choice for 2005–2006. However, the option was re-inserted for 2007–2008, so we use data for that period.

6. Results

6.1. Tests of hypotheses

Table 3 shows the results of testing the above hypotheses. First, it summarises the data collected for the five countries relating to all the issues of Table 2. For each country and issue, the table shows the policies used, as percentages of the companies for which the policy was observable (see the 'N'). In most cases, the data can be reduced to the percentages using one policy out of two available in IFRS, although in a few cases (e.g. issue 3) we record the scores for three possibilities.

As explained earlier, we conduct two sorts of statistical tests on these data. The chi-square test measures the overall independence between policy choice and country for each of the 16 issues. The null hypothesis of similar practice is rejected at the 1% level for 14 issues and at the 5% level for two of them.

Table 3 also shows the results of the binomial tests. The testing of issues that have two choices is carried out with conventional methods of approximations to the normal distribution. In practice we do the same tests for the issues that have more than two choices, by formulating the hypothesis with respect

³⁰ At least, information on a proportional basis had to be included in the balance sheet for joint ventures in the construction industry (TRANSACC, 2001: 2314).

Table 3
Policy choices (percentages of companies by country) and hypothesis testing

	Policy choices by country, %					χ^2 tests ^a		Binomial tests ^b	
	Australia	UK	France	Spain	Germany	P-value	Cramer contg. coeff	Alt. hypothesis	H0 reject. (level)
1a) income statement by function	59.3	47.2	54.8	4.0	76.5	.000	.242	H1	Sp vs. Au, UK, Fr and Ge
1b) by nature	29.6	13.9	45.2	96.0	23.5				
1c) neither	11.1	38.9	0.0	0.0	0.0				
N (= non-financials)	27	72	31	25	17				
2a) inclusion of a line for EBIT or op profit	51.9	97.2	100.0	96.0	100.0	.000	.335	H2	Au vs. UK, Fr, Sp and Ge
N (= non-financials)	27	72	31	25	17				
3a) equity acc included in operating	63.2	24.5	6.9	0.0	18.8	.000	.230	H3	Fr vs Au, UK and Ge
3b) immediately below	15.8	32.1	3.4	8.3	62.5				Sp vs Au, UK and Ge
3c) below finance	21.1	43.4	89.7	91.7	18.8				
N (= non-financials with equity accounting)	19	53	29	24	16				
4b) showing net assets	100.0	84.7	0.0	0.0	0.0	.000	.783	H4	Au vs. Fr, Sp and Ge
N (= non-financials)	27	72	31	25	17				UK vs. Fr, Sp and Ge
5b) liquidity increasing	0.0	100.0	100.0	96.3	85.0	.000	.893	H5	Au vs. UK, Fr, Sp and Ge
N (= non-banks)	37	90	32	27	20				
6b) SORIE only	65.9	83.7	5.7	25.0	21.7	.000	.391	H6	UK vs. Au, Fr, Sp and Ge
N (= all)	44	98	35	32	23				
7b) indirect cash flows	0.0	98.0	100.0	87.5	100.0	.000	.785	H7	Au vs. UK, Fr, Sp and Ge
N (= all)	44	98	35	32	23				
8a) dividends received as operating	87.5	36.7	92.9	50.0	66.7	.000	.265	H8	UK vs Au and Fr
N (= companies showing dividends)	40	60	28	18	6				
9a) interest paid as operating	90.9	68.4	88.6	38.7	61.9	.000	.134	H9	UK vs Au and Fr
N (= companies showing interest paid)	44	98	35	31	21				
10b) some PPE at fair value	13.6	12.2	0.0	0.0	0.0	.014	.054	H10	Au vs. Fr, Sp and Ge
N (= all)	44	98	35	32	23				UK vs. Fr, Sp and Ge
11b) some investment property at fair value	42.9	73.1	0.0	0.0	0.0	.000	.411	H11	UK vs. Au
N (= companies with investment properties)	28	26	7	14	15				UK vs. Fr, Sp and Ge
									Au vs. Sp and Ge
									Au vs. Fr
									Au vs. Ge
12a) some fair value designation	29.6	12.5	32.3	12.0	5.9	.033	.061	H12	UK vs. Ge
N (= non-financials)	27	72	31	25	17				

Table 3
Policy choices (percentages of companies by country) and hypothesis testing (continued)

	Policy choices by country, %					χ^2 tests ^a		Binomial tests ^b		H0 reject. (level)
	Australia	UK	France	Spain	Germany	P-value	Cramer conting. coeff	Alt. hypothesis	Hypothesis testing (pair-wise)	
13a) interest capitalisation	75.8	47.5	40.0	94.4	22.2	.000	.186	H13	Au vs. UK, Fr and Ge	.01
N (= companies specifying borrow. costs)	33	59	25	18	18				Sp vs. UK, Fr and Ge	.01
14a) FIFO only	27.3	50.0	11.5	5.9	0.0	.000	.129	H14A	Ge vs. UK	.01
14b) weighted average only	59.1	29.2	57.7	88.2	71.4				Ge vs. Au and Fr	NR
N (= companies with inventory)	22	49	26	17	14			H14B	UK vs. Fr, Sp and Ge	.01
									UK vs. Au	.05
15a) actuarial gains/losses to SORIE	72.7	84.4	20.0	12.5	47.6	.000	.235	H15A	Ge vs. Au and UK	.01
15b) to income in full	18.2	3.3	5.7	37.5	0.0				Ge vs. Fr and Sp	NR
15c) corridor	9.1	12.2	74.3	50.0	52.4			H15B	UK vs. Au	NR
N (= companies with defined benefit plans)	33	90	35	16	21				UK vs. Fr, Sp and Ge	.01
16a) some proportional consolidation	5.3	22.4	81.3	84.6	31.3	.000	.381	H16	Fr vs. Au, UK and Ge	.01
N (= companies with joint venture entities)	19	67	32	26	16				Fr vs. Sp	NR
									Sp vs. Au, UK and Ge	.01
									Ge vs. Au	.05
									Ge vs. UK	NR
									UK vs. Au	.05

^a The χ^2 -test measures the independence of the cells of a contingency table with accounting choice cross-tabulated with country. The Cramer's contingency coefficient defined as $\chi^2/N(q-1)$, where q is the number of alternative choices, measures the strength of the association (cf. Bhattacharyya and Johnson, 1977: 434).

^b The rejection level of the binomial tests refers to all the pair-wise tests included in that row. NR means no rejection.

Table 4
Deviations per company from pre-IFRS national requirements

	<i>Australia</i>	<i>UK</i>	<i>France</i>	<i>Spain</i>	<i>Germany</i>
N (= non-financials)	27	72	31	25	17
1. Average number of deviations	1.04	1.72	0.48	0.20	0.35
2. Maximum possible deviations	8	9	9	7	7
3. Average as percentage of maximum	13.0	19.0	5.4	2.9	5.0

to one specific alternative. It follows from the idea underlying the alternative hypotheses that, for testing purposes, the sample of companies from each country should be treated as separate populations. When, for example, it is claimed that Spanish companies are more inclined than others to present an income statement by nature, the related testing consists of pair-wise comparisons between the scores of the Spanish sample and the scores of each of the other samples, i.e. a total of four tests. If we had been certain that the null hypothesis were true for all companies except Spanish ones, we might, of course, have pooled the scores of the latter four for the purpose of the testing. However, whether the statistical distributions are identical or not is precisely the question we seek to answer, and the consequence is that all samples are treated separately. As we have designed the statistical analysis, each of the four tests should result in a non-rejection of the null hypothesis if it is true.

One problem that we encounter by this pair-wise approach is that some of the samples compared are under the threshold recommended for approximations to the normal distribution (typically 25, see for example, Bhattacharyya and Johnson, 1977: 295). In this study each single test is not essential for the conclusion, so we report all results, being aware that some of them may be based on insufficient sample sizes.

Thus, hypothesis H1, which proposes that Spanish companies have a greater tendency than others to use an income statement by nature, was tested pair-wise for each of the other four countries. In all four cases, the null hypothesis that Spanish choices are the same as others is rejected at the 1% level.

We ran 82 binomial tests. Of these, 62 led to the rejection of the null hypotheses at the 1% level, and a further 12 tests did so at the 5% level. The remaining eight tests did not enable rejection of the null hypotheses but in six of these cases the data were consistent with our alternative hypotheses.

In sum, there is a large amount of highly significant evidence that policy choice under IFRS varies internationally and is not random.

Furthermore, we have shown that the national profile of IFRS practice is explained by national pre-IFRS requirements (or predominant practice).

6.2. Comparisons with pre-IFRS practices

The above hypotheses largely concern the continuation of policies previously required by national GAAP. The only cases where we relied on predominant national choices for our hypotheses related to Spain (issue 13) and the UK (issues 4 and 14). A more precise hypothesis is that a particular company continued with its particular pre-IFRS policy choice. To test this, we looked at all the 2004–05 (pre-IFRS) reports of our Spanish and UK companies for these issues. For issue 13 (capitalisation of interest), 94% of Spanish companies³¹ maintained their pre-IFRS practice of capitalisation. For issue 14 (FIFO, weighted average or a mixture), all 69³² UK non-financial companies made exactly the same policy choice under IFRS as they had done pre-IFRS. For issue 4 (balance sheet format), 88% of the UK companies maintained their policies.³³

On the assumption (defended earlier) that, pre-IFRS, our companies complied with national requirements, Table 4 shows the policy switches under IFRS. As can be seen, there are few such switches (e.g. less than 3% of policies were switched by Spanish companies). If we add in the other policy issues for which there was no national requirement, by studying the pre-IFRS practices of the particular companies, we find similar results.³⁴

7. Conclusions

The central objective³⁵ of the IASB is to foster the provision of comparable financial information for participants in the world's capital markets. This

³¹ Seventeen companies disclosed a policy for both years.

³² There were 72 non-financial companies in our UK data, but three of them did not publish UK GAAP reports for 2004–2005.

³³ Of the 69 companies, seven changed from showing net assets to not doing so, and one changed the other way.

³⁴ For example, for the UK, we add six more issues, and find 18.8% switches for all 15 issues. We omit issue 12 because there was no pre-IFRS requirement or practice on designation.

³⁵ IASB's *Preface to International Financial Reporting Standards*, para. 6.

would be achieved if similar transactions were measured and presented similarly throughout the markets, i.e. uniform practice. The existence of systematic differences in accounting policies due to non-economic characteristics – such as country of incorporation – is clearly contrary to this ambition.

This paper highlights 16 accounting issues for which the literature identifies international differences in pre-IFRS reporting, and for which variation within IFRS is allowed and is observable if it occurs. An examination of the policies used by all the domestic IFRS reporters in the stock indices of five major capital markets for the first year of compulsory IFRS adoption allows us confidently to conclude that IFRS practice is subject to systematic differences across countries.

The continuation of national traditions seems to explain variations in IFRS policies between countries. However, that is merely a proxy for our more precise hypothesis that a particular company continued with its pre-IFRS policies on transition to IFRS. For each non-financial company of the five countries, we compare its practice under IFRS with pre-IFRS requirements and find that there were few deviations from those earlier requirements. When we extend this to look at policy switches even where there was no pre-IFRS requirement, we again confirm the preservation of previous practices.

Our research shows that systematic differences exist both in trivial matters (such as the liquidity order of the balance sheet) and in more complex matters (such as the composition of cash flows from operations or the treatment of actuarial losses). Whereas the former are hardly any obstacle to comparability, the latter most likely are. Some of our policy issues are not as important as others but they bolster the evidence for the existence of national versions of IFRS practice. This allows strong inferences to be made about variation in practices that cannot easily be measured, e.g. the tendency to make impairments.

We believe that our results are extensible in various ways. First, we examined very large listed companies. These are probably the least likely to evince national practices. We expect that test results would be at least as strong for other companies, but this can be examined. Second, our choice of blue chip companies limited the size of the sample, especially for Germany. We do not expect that a larger sample would change our results, except to make them even stronger, but it would enable an extended analysis of whether a company's sector affects its policy choices. This would add to our findings of some differences between financial and non-financial companies. Third, we examined 16

areas of policy choice. There are many others which are less observable. For example, there are several covert options and estimations in the issue of impairment, such as whether to recognise impairments, how to measure cash flows, and what discount rate to use. National traditions (and, specifically, previous practices of companies) are likely to continue in some of these areas. It is not clear how to examine these covert options, but other researchers might try. Fourth, we examined five countries, but would expect national versions of IFRS to be observable in smaller IFRS-using capital markets. Fifth, we concentrated³⁶ on one year's worth of annual reports; mostly³⁷ the first year of IFRS adoption. Later research could address whether companies gradually exploit options more fully, at least up to reports published in 2010 when some³⁸ IFRS options will no longer be available. To the extent that we look at data after 2005–2006 (for 2007–2008 for two Australian issues), we find national practice continuing.

The five points above are limitations of our research. A more general limitation is that, although we can largely explain why particular companies adopted particular IFRS policies in the context of the transition to IFRS, more work is needed to go deeper into why, over a long period, particular policies have been preferred in particular countries or by particular companies. For some issues (e.g. the German preference against measurement above cost), the literature is extensive. For others, 'accidents' are the apparent cause (such as the German use of the 'corridor' pensions method because German companies adopted IFRS before other countries did, when the 'SORIE' method was not available). For yet other issues (e.g. why the Spanish prefer to capitalise interest), there is no convincing theory. It might be necessary to theorise about each policy choice, one by one, such that no overall theoretical model would be explanatory.

We remind readers of other caveats. First, for most of our hypotheses, we assume that, pre-IFRS, national requirements were followed. We believe that this is highly likely to be a correct assumption for our large listed companies for our easily observable policy choices. However, there might be some exceptions. Second, for two of the policy issues for Australia, companies had no choice in

³⁶ Although, we examined 2008 reports for two Australian issues.

³⁷ Except for the German companies.

³⁸ Of our 16 issues, the presentation of the income statement, the capitalisation of interest, and perhaps the treatment of joint ventures will be affected, but not compulsorily until 2009 year-ends or later.

2005–2006. Although this does not alter our findings about the continuation of pre-IFRS practices, these are different cases from all the other countries and all the other issues. Nevertheless, by substituting data for 2007–2008 (when there was a choice), we can rectify that. This time, we need to assume that a company would have chosen in 2005–2006, what it chose in 2007–2008. We know of no reason to doubt that.

In addition to the possible extensions to our research resulting from the limitations mentioned above, another opportunity is to examine whether a two-class model (Anglo-Saxon versus Continental European) that was discussed³⁹ before the adoption of IFRS exists under IFRS. That is, for example, do Australian and UK companies tend to choose IFRS options in the same way (and perhaps in conformity with US GAAP), at least compared to continental European companies? A further possibility is to ask why certain companies deviate from pre-IFRS practices and national profiles, and why this is more common for UK companies than for Spanish ones (see Table 4).

Another issue to be investigated is whether market participants are able to see through the different policy choices. If it turns out that they can, then the differences are less important for users and regulators. However, investigations in this area are complex, and previous studies (e.g. on LIFO adoption) are both numerous and inconclusive.

There are policy implications from our findings. We believe that options in accounting standards are justified to the extent that they enable companies with different economic characteristics to produce a fair presentation of their activities. The systematic differences in practice between countries, that we document in this paper, are an unwanted corollary. In our view the disadvantages of systematic differences outweigh the advantages of having options, so we encourage the IASB to continue its efforts to remove options. Second, analysts of financial statements should be alert to the continuing international differences within ostensibly 'international' standards. Analysts might benefit from knowing the national profiles when trying to construct comparable figures. For example, it might be helpful to know that French IFRS companies tend to proportionally consolidate the cash of joint ventures, to show interest paid as an operating cash flow and to charge actuarial losses as expense, whereas UK IFRS companies tend not to do those things. It might also be helpful to know that

other, potentially more important, country-related differences (e.g. on impairment) exist beneath the surface of IFRS practice. Third, this variation in IFRS practice is likely to be of interest to regulators, especially to the SEC as it monitors IFRS practice of foreign registrants and perhaps, in future, of US companies. The SEC's acceptance of IFRS has been made on the assumption⁴⁰ of further progress in removing options.

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³⁹ See, for example, the disagreement between d'Arcy (2001) and Nobes (2004).

⁴⁰ SEC, 2008, II, B.

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Accounting and Business Research



INTERNATIONAL ACCOUNTING POLICY FORUM

Fair value accounting, financial economics and the transformation
of reliability *Michael Power*

The political economy of regulation: does it have any lessons for
accounting research? *Michael Moran*

Different approaches to corporate reporting regulation: how jurisdictions
differ and why *Christian Leuz*

The pros and cons of regulating corporate reporting: a critical review of
the arguments *Robert Bushman and Wayne Landsman*

The ICAEW's Recommendations on Accounting Principles and secrecy
of process *Stephen A. Zeff*

Conceptual frameworks of accounting from an information perspective
John Christensen

How can we measure the costs and benefits of changes in financial
reporting standards? *Katherine Schipper*

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Thomas Schleicher and Martin Walker, Bias in the tone of forward-looking narratives

Richard Barker, The operating-financing distinction in financial reporting

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Editorial

In collaboration with the Institute of Chartered Accountants in England and Wales, *Accounting and Business Research (ABR)* is pleased to present the fifth issue of the *International Accounting Policy Forum (IAPF)*. The issue contains the papers presented at the Institute's 2009 Information for Better Markets Conference, which asked the topical and controversial question: 'Who should lead corporate reporting: markets or regulators?'. The major papers written by leading international academics reflect the themes they were invited to develop in their presentations at the Forum, all providing different styles of thought-provoking evidence and comment. The responses from practitioners provide a taste of the lively debate provoked in a mixed audience of leading practitioners and policy makers sitting alongside academics from a spectrum of international institutions. It is the hope of the editor and the Institute that publication of the papers will encourage a continuing and widening debate which will facilitate better communication among the research community, the accounting profession, company managers, regulators and all other parties interested in the debate over the regulation of corporate reporting.

It is a further pleasure to *ABR* that we are publishing here the annual P.D. Leake lecture paper from 2009, providing a thought-provoking analysis of the rise of fair value accounting, despite opposition to its increased application.

The major papers from the conference, together with the P.D. Leake presentation, have been reviewed by academic reviewers. I am particularly grateful to the reviewers and the authors for the care they have taken with this process.

IAPF is explicitly charged with bridging the gap between academia and the profession. The contents of this issue provide many opportunities for engaging research and practice.

Pauline Weetman



Introduction

The theme that links the seven papers in this issue of *International Accounting Policy Forum* is that each of them, in different ways, is relevant to the regulation of financial reporting. This is a broad subject that covers legal requirements, securities regulation, accounting standards, and their enforcement.

Michael Power's paper, based on his 2009 P. D. Leake lecture at the ICAEW, explains the rise of fair value accounting. This is a somewhat mysterious phenomenon in view of the very limited support for fair value among most of the constituencies who have an interest in financial reporting. Indeed, Professor Power draws attention to the striking fact that 'the pressures for change behind fair value accounting seem to be generated more by the visions and dreams of accounting policy makers than by real market forces and external demands for change.' This leads him to look at a number of factors that help to explain the rise of fair value, including the idea that 'fair value measurement is part of a professional identity project for technical standard-setting.' The questions raised in this paper are, to the best of my knowledge, new in the context of financial reporting research, and I hope that they will be explored further by other researchers.

The remaining papers are all based on presentations given at the ICAEW's December 2009 Information for Better Markets Conference. To avoid misunderstanding, I should mention at the outset that, unlike some of the previous conferences in this series, on this occasion we did not have any papers that set out to provide comprehensive reviews of the literature.

Michael Moran's paper, which opened the conference, introduces the subject of regulation in general terms. For accountants, who see their field as technical and who resist political interference in it, Professor Moran's key point that 'regulation of any domain of economic life is a political affair' is perhaps a salutary reminder. He also describes the political pressures and inheritances that have created distinct regulatory styles on each side of the Atlantic – something that will create a challenge for genuine globalisation of accounting.

Christian Leuz's paper explores this last point in the specific context of financial reporting regulation. He draws attention to the persistence of robust

institutional clusters around the world and explains why they exist. He concludes that 'reporting practices are unlikely to converge globally.' However, there is a strong demand for accounting convergence among the largest global firms. Professor Leuz therefore suggests the creation of a 'global player segment', so as to achieve convergence at least for these firms. This idea attracted a lot of interest at the conference.

In their paper, Robert Bushman and Wayne Landsman first consider the arguments for and against regulating financial reporting and then look at recent events, which suggest that accounting standard-setting 'is at risk of becoming entangled in a web of political forces.' This refers to the important and controversial revision of standards on fair value for financial instruments, which became highly politicised during the recent financial crisis. The authors' detailed discussion of the episode concludes relatively optimistically, though, that 'bank regulatory policy and accounting standard-setting decisions were jointly determined as a potentially socially optimal means to mitigate the effects of the financial crisis.'

Using an information economics approach, John Christensen analyses the role of conceptual frameworks for accounting standards from an information perspective. He argues that 'the focal point of a conceptual framework must be the comparative advantage of accounting' and that it is an important role for the conceptual framework to help maintain this advantage. This argument draws attention to the context of accounting; it is just one source of relevant information about firms – a point too often overlooked.

Katherine Schipper's paper discusses the practicability of measuring the costs and benefits of changes in financial reporting standards. She notes that 'although the mission statements and conceptual frameworks of standard-setters such as the International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) specify a costs and benefits constraint ... standard-setters do not in fact apply a conventional cost-benefit analysis.' Having analysed the elaborate multi-step and multi-party analysis that takes place in the European Union, Schipper asks whether it makes sense for the IASB to do its own cost-benefit

analysis. She suggests the entire effort could be left to the European Commission and similar bodies in the other jurisdictions where IFRS (or standards based on or adapted from IFRS) are used.

Finally, Stephen Zeff's short paper, based on a talk he gave at the conference dinner, looks at an era before standards. Professor Zeff has recently edited a reprint, *Principles before Standards*, of the full texts of the ICAEW's Recommendations on Accounting Principles, which were issued between 1942 and 1969. His paper contrasts the opaque process by which these recommendations were developed with the openness of contemporary standard-setting.

If I had to highlight just one point that I think emerges in one way or another from all these papers it is the pervasiveness of politics in financial reporting regulation. This is not just a matter of intervention by heads of state, although recently we have seen more than one instance of that. It is also a question of the pressures from interested parties in the standard-setting process and the standard-setters' own – entirely understandable – ambitions for recognition, credibility and survival.

This is the fifth issue of *International Accounting Policy Forum* and I believe it continues to live up to its ambition of enhancing the interaction of academic and practitioner communities on important public policy issues related to accounting. I am therefore grateful not only to the distinguished academic contributors to this year's issue, but also to the practitioners who responded to them and whose comments are reproduced in this issue.

As ever, special thanks are also due to Pauline Weetman for her excellent work as editor and for her continuing support. Finally, I want to thank the ICAEW's charitable trusts, which generously provided funding to support the 2009 P. D. Leake Lecture and Information for Better Markets Conference and the preparation for publication of the related academic papers.

Robert Hodgkinson
Executive Director, Technical
ICAEW

February 2010

Fair value accounting, financial economics and the transformation of reliability

Michael Power*

Abstract — This paper addresses the question of how and why the use of fair values in accounting acquired significance prior to 2007 despite widespread opposition. An answer is suggested in terms of four mutually supporting conditions of possibility which gave the proponents of fair value institutional support and strength which their opponents lacked. First, fair value enthusiasts could draw on the background cultural authority of financial economics. Second, the problem of accounting for derivatives provided a platform and catalyst for demands to expand the use of fair values to all financial instruments. Third, the transformation of the balance sheet by conceptual framework projects from a legal to an economic institution created a demand for asset and liability numbers to be economically meaningful, a demand which fair value could claim to satisfy. Fourth, fair value became important to the development of a professional, regulatory identity for standard-setters. These four conditions, though not sufficient in themselves, added up to a weakening of a transactions-based, realisation-focused conception of accounting reliability in favour of one aligned with markets and valuation models. An interesting consequence is that auditing standard-setters found themselves forced into a reactive role.

Keywords: fair value accounting; measurement; reliability; financial economics; accounting policy; financial instruments

1. Introduction

The conception and application of ‘fair value’ measurement within financial reporting has an ad hoc history which reaches back at least two decades (Omiros and Jack, 2008). In the 1980s the term was widely applied within the context of acquisition accounting as a basis for the allocation of entry values to acquired assets. The procedure yielded a figure for purchased goodwill and opening book values, but was not without its difficulties and controversies. For example, contractual and transaction cost incentives existed to identify any fair value ‘components’ of goodwill, such as brands and intangibles. Yet, despite these complications, this earlier period was marked by more or less tolerance of mixed measurement bases for financial accounting. A range of current value measurements were applied piecemeal and a certain style of ‘reactive’ pragmatism characterised the approaches of national standard-setters. Despite the widely acknowledged intellectual defects of historical

cost measurement and the sometimes large gap between accounting net book value and market capitalisation, pressures for a single dominant measurement convention were muted.

By 2007, just prior to the financial crisis, the status of fair value measurement had changed entirely, having acquired both an expanded significance and position of controversy within the financial accounting policy process. Indeed, the idea of fair value measurement for accounting came to be a motivating and quasi-philosophical principle at the centre of an accounting reform process led in different ways by specific members of FASB and IASB.¹ Fair value could be said to be much more than just a technical measurement convention; for its proponents it came to represent a change process which was global in aspiration and was increasingly intolerant of the apparent incoherence of mixed measurement systems.

Even before the largest financial crisis since the 1930s caused this change programme to stumble and compromise, fair value was the subject of heated debate by policy makers, practitioners and academics alike. However, the idea of fair value accounting seemed to have momentum and became institutionalised despite strident opposition from many quarters about features of its implementation, not least from European banks seeking to retain reporting discretion in key areas.

This essay addresses the following question: how and why did this change in the status and signifi-

*Michael Power is Professor of Accounting at the London School of Economics and Political Science. This paper is based on the 2009 P.D. Leake lecture delivered at Chartered Accountants’ Hall, London on 15 October 2009. The lecture was entitled ‘Fair value: the influence of financial economics on accounting’. The author is grateful for the financial support of the charitable trusts of the Institute of Chartered Accountants in England and Wales and for the invaluable comments of: Michael Bromwich, Robert Hodgkinson, Richard Laughlin, Andrew Lennard, Richard Macve, Christopher Napier, Brian Singleton-Green and Geoffrey Whittington.

Correspondence should be addressed to: Professor Michael Power, Department of Accounting, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, UK. Tel: 00 44 207 955 7228. E-mail: m.k.power@lse.ac.uk.

¹Consistent with this view, Walton (2004: 9) suggests that a leading IASB member openly articulated fair value as a ‘meta-rule’ or guiding principle.

cance of fair value in accounting over two decades happen? Though it would be reasonable to answer this question by the forensic analysis of successive developments of accounting standards embodying fair value, a more thematic approach is adopted which takes a step back from the technical detail and interprets the rise of fair value in terms of a contest between fundamentally different conceptions of accounting reliability. Specifically, a notion of reliability grounded in market-based and market-simulating valuation processes is in competition with an older, transactions-based model.

Many commentators have hinted at the importance of measurement reliability in accounting, but it has been largely treated by all sides in the fair value debate as if it were a simple uncontested thing. Yet, close analysis suggests that actors operate with very different conceptions of reliability, and that measurement reliability in accounting is what might be called a 'social construct'. Accordingly, the arguments which follow about fair value also provide a tentative outline for a 'sociology of accounting reliability'.

In the next section the main contours of the contemporary debate about fair value are sketched, drawing on several summaries and analyses. The discussion focuses on how a distinctive notion of accounting, and therefore reliability, emerged and was articulated prior to the financial crisis. Subsequent sections explore the wider institutional conditions of possibility for this transformation which, at least for a time, became tightly interconnected and reinforcing — something which explains the relative ineffectiveness of some powerful opponents.² Section 3 deals with the rise of financial economics both as a challenge to, and as a cultural resource for, financial accounting. The preconditions for fair value lie in a progressive articulation of decision relevance for accounting which draws on highly abstract conceptions of users, markets and price formation. Section 4 argues that the problem of accounting for derivatives challenged the credibility of accounting but also acted as a catalyst for the expanded significance of fair value and as a technical platform for a new conception of reliability. Section 5 suggests that the de-legalisation of the balance sheet by successive conceptual framework projects created a demand for accounting numbers in the balance sheet to mean something more than a residual. In turn, this provided fertile ground for the promotion of fair value and for the marginalisation of the 'realisation' concept in accounting. Finally,

Section 6 draws on work in the political economy of international accounting policy to argue that the rise of fair value corresponds to the construction of a new 'technical' professional identity for accounting standard-setters as experts in a world-level system of global governance. However, underlying this professional identity are tensions between fair value idealists and pragmatists and their associated conceptions of accounting reliability.

These four different factors mutually reinforce each other and characterise a progressive intellectualisation of financial reporting policy in which the idea of fair value is central. Intriguingly, the pressures for change behind fair value accounting seem to be generated more by the visions and dreams of accounting policy-makers than by real market forces and external demands for change. Furthermore, the changing narrative of reliability for accounting numbers embodies a vision of the market as the ultimate 'auditor' of asset and liability values, supported by institutionally credible economic valuation methodologies. That the future is uncertain is obvious and trivial; actual and expected income are different concepts (Dean, 2008). Less obvious and less trivial is the process by which some technologies for knowing the future come to be regarded at specific times and places as more reliable and acceptable than others.

Two important caveats about the discussion which follows are necessary. First, a great deal of the practical and academic debate about fair value accounting concerns the scope of its application, and the implications of asset-liability classification for the income statement. For example, the IAS 39 (IASB, 2004) controversy demonstrates how a consensus about the use of fair values for measuring and reporting trading assets quickly dissolves when it collides with business model issues about hedging and long-term finance. The arguments below do not address these issues and focus primarily on the measurement issue and related visions of accounting reliability. Second, the essay does not address in depth the obviously important role of specific individuals in the fair value debate, preferring to delineate broad features of the institutional space which these actors inhabit. A more complete analysis would need to address the role and power of key individuals in shaping the 'regulatory space' of fair value.

2. Fair value and the reshaping of reliability

The concept of 'fair value' measurement emerged in financial accounting and was accepted in the abstract long before it was a subject of analysis and dispute (Bromwich, 2007). Furthermore, 'fair

² Halliday and Carruthers (2009) refer to this intriguingly as the 'weakness of the strong'.

value' is not itself a single measurement methodology but encompasses a variety of approaches for the estimation of an exit value. So it is hardly surprising that many of the arguments which have been developed for and against the use of fair values in accounting are not well-supported by evidence (Laux and Leuz, 2009); disputants often talk past each other. However, the relative absence of justifications by standard-setters is also responsible for the power of fair value accounting as a reference point in debate. As with 'operational risk', policy concepts can be articulated in the abstract by regulators and accepted by industry before complex and messy issues of implementation come into play (Power, 2005).

Definitions of fair value vary in subtle ways that may end up mattering in law but from afar, and to the untutored eye, they look similar. FAS 157 (FASB, 2006) defines fair value as: 'the price that would be received to sell an asset or paid to transfer a liability in an *orderly transaction* between *market participants* at the measurement date'. IASB (2009) reproduces this as a core principle.

This definition, which has existed in various slightly modified forms for many years, might appear uncontentious. Yet, it is a complex hybrid of ideas and assumptions which point to the estimated prices that might be received in a market, one which turns out to have specific and assumed characteristics. This causes several commentators to remark on the 'fictional' and 'imaginary' nature of fair values (e.g. Casson and Napier, 1997) and to bemoan their 'subjectivity' and potential for manipulation and bias. Indeed, Bromwich (2007) outlines how many assumptions underlie the production of fair values and draws the conclusion that the understanding of fair value may vary considerably.

Regardless of whether these criticisms have substance, it is also the case that if enough people believe in fictions, then they can play a role in constituting markets. Mackenzie and Millo (2003) argue in the context of the development and institutionalisation of option pricing models that simplifying assumptions began life as being non-descriptive of pricing processes, then came to be the preferred and dominant methodology. Once accepted, the Black-Scholes model contributed to the development of the depth and liquidity of the market, although Mackenzie and Millo note how this relationship was looser again after the 1987 crash. The general message is that if key communities accept the usefulness of 'fictions', they have real consequences and can become regarded as 'real'.

Proponents of fair values in accounting often appeal to notions of telling things 'as they are' and of improving transparency. They point to areas such as pension accounting or the savings and loans industry in North America where fair values would have made problems (deficits, poor performing loans) visible much earlier, thereby enabling corrective action. An often heard trope is that one 'should not shoot the messenger' of poor asset quality. Yet sceptics argue that fair value accounting has created a false short-term visibility in the case of pension funding and hastened the demise of defined benefit schemes (Kiosse and Peasnell, 2009). More generally, critics argue that the financial crisis demonstrates the pro-cyclicality of fair values when accounting is tightly coupled to prudential regulatory systems, and the unreliability of marking to model in less than liquid asset markets, especially for assets which are being held for the long term.

According to Laux and Leuz (2009) the fair value debate should not be polarised. The use of fair values is neither responsible for the financial crisis nor entirely innocent.³ Furthermore, arguments *against* fair value do not automatically translate into arguments *for* historical cost accounting. Information about current values, or best estimates of those current values, is likely to be useful for management and market analysts in conjunction with lots of other bits of information. Contracts and covenants may be highly sensitive to mark to market strategies in a crisis, where breathing space may be valued over short-term volatility in contractual and regulatory compliance. This is echoed by the analysis in Plantin et al. (2004) of the different winners and losers from the shift to mark-to-market for financial instruments in general, and helps to explain the intensity of the politics of fair value accounting, even prior to the financial crisis.

While much of the heat generated by fair value concerns the politics of reporting discretion for banking institutions, Laux and Leuz (2009) suggest that the polarisation in the debate is founded primarily on different views about the goals of accounting. In parallel but somewhat differently, it can be argued that the debate is also driven by different, almost unconscious, views about what it is for an estimated accounting value to be reliable.

One of the explicit motivations for the expanded significance of the use of fair values is its perceived potential to minimise the freedom to manipulate accounting numbers (CFA, 2007). Market-based

³ On pro-cyclicality Laux and Leuz (2009) suggest that the situation is complex, the evidence is ambiguous and that there is a need for more work on the mechanisms of contagion.

values are, almost by definition, a non-management based referent and this is consistent with early standards on audit evidence quality hierarchies which prioritise sources of evidence which are independent of both auditee and auditor. So an important aspect of the 'fair value' concept is to establish distance from entity views of value and to locate reliability as far as possible in the collective judgment of the market.

Reliability is one of the fundamental qualitative characteristics of accounting information as articulated in early conceptual frameworks (FASB, 1980). Yet the reliability of accounting numbers is not a given: it is always founded on a consensus whose strength is an empirical and not a conceptual fact. The consensus is often implicit and taken for granted, but becomes more problematic at times of conflict and competition when questions of power and authority become visible. Ideas of accounting reliability may change over time, may have relative rather than absolute significance, and may only be grounded in the fiction of an ideal consensus among a community of reasonable measurers (Ijiri and Jaedicke, 1966).⁴

Barth (2007) challenges the transactionally based view of reliability by arguing that it is no longer to be identified with verifiability but has to do essentially with faithful representation: 'just because an amount can be calculated precisely, it is not necessarily a faithful representation of the real-world economic phenomena it purports to represent'. This statement, and others like it, constitute a reframing of the concept of reliability, essentially collapsing reliability into relevance. Against a transactionally grounded conception of reliability involving audit trails linking accounting events to reporting, Barth's conception shifts the centre of gravity for thinking about reliability to markets and the values they produce.

This new conception of accounting reliability takes as its benchmark the most liquid, orderly markets, those typically associated with financial assets and liabilities. This benchmark, and the idea of reliability it embodies, is extended to analogies and models which simulate market prices using 'accepted economic methodologies' – the so-called levels 2 and 3 in the fair value hierarchy of valuation methods. It is not unusual for policy solutions in one

setting to migrate from their original context and expand their application in this way.

It should be remembered that accounting policy discussions have visited the issue of measurement reliability many times before. For example, in the late 1980s, brand valuers using a mix of analogical and model-based reasoning challenged the prevailing prohibition against valuing internally generated brands. The debate, while conducted in technical terms, was highly sensitive to the credibility of valuation expertise proposed by non-accountant valuers (e.g. Interbrand). The UK Accounting Standards Committee sought to undermine the analogy between accepted practice of reliance on chartered surveyors and brand valuers, but they were on increasingly weak ground, especially when accounting firms developed their own brand valuation capacity (Power, 1992a).

The brand accounting debate reminds us that conceptions of reliability in financial reporting can change as bodies of valuation knowledge become accepted as a basis for transactions. In turn, market liquidity may be increased by the credibility of such methodologies which further increases their credibility in a virtuous performative circle (Napier and Power, 1992). Just as with the brand debate of the late 1980s, level 2 and 3 fair values pose resource and expertise challenges both for audit firms who must draw on valuation specialists trained in financial economics, and for global regulatory bodies in addressing the need for guidance on how to find evidence for estimates (IAASB, 2008).⁵ The model dependency of level 3 fair values poses knowledge problems for auditors who must gain confidence about the input, assumptions, and parameters of valuation models (IAASB, 2008; Humphrey et al., 2009).

One common mechanism for the creation of auditor confidence is the outsourcing of opinion or reliance on other experts (Power, 1996). In this respect the re-emergence of the International Valuation Standards Council (IVSC) in 2009 is significant.⁶ Created originally to provide guidance on property valuation, the IVSC has developed closer relations with IASB with a view to providing guidance on the valuation of financial instruments. Significantly, IVSC criticised the IASB exposure draft on fair value measurement for being too

⁴ Similarly, in his *Theory of Justice*, the social philosopher John Rawls constructed an elaborate fictional choice mechanism for his principles of justice because the real consensus of real people and their interests was highly unlikely. See Power (1992b) for a more explicit analysis of the parallels between Rawls' project and the conceptual framework.

⁵ In the North American context, see 'PCAOB ponders how to audit fair value', CFO.com, 15 June 2007.

⁶ See www.ivsc.org. See also 'Valuation body prepares for global role', *Accountancy Age*, 3 September 2009: 'a valuation is always based on a hypothesis and, like any hypothesis, the credibility rests on the assumptions you make ... It's a collision between mathematics and philosophy.'

narrowly prescriptive about the range of possible valuation methods. It argued that accounting standard-setters should prescribe at the level of principle and leave space for the development of detailed valuation methods (IVSC, 2009).

The implication is that fair valuation might move 'offshore' in relation to accounting standard-setters leaving accountants as compilers rather than valuers. From this point of view, fair value can be understood as a potentially radical change programme for the expertise base of accounting. Far from being traded off against one another, reliability is progressively collapsed into relevance (Whittington, 2008) with clear implications for the need for external valuation expertise.

This change programme has been contested by proponents of other current value measurement bases, such as replacement cost within a 'deprival value' decision logic. These critics of fair value argue that they are subject to the very forms of management manipulation which they are intended to correct: 'discounting cash flows to derive a fair value invites deception' (Ronen, 2008). Fair values are never real market values but only estimates of market prices which would or could be obtained. They are necessarily 'as if' or fictional constructs which depend on critical assumptions about orderly markets (Bromwich, 2007).

Nevertheless, many critics of the subjectivity of fair values miss the real point of Barth's challenge; the very idea of reliability is being reconstructed in front of their eyes by shifting the focus from transactions to economic valuation methods, and by giving these methods a firmer institutional footing. Deep down the fair value debate seems to hinge on fundamentally different conceptions of the basis for reliability in accounting, making it less of a technical dispute and more one of the politics of acceptability. Indeed, the apparent three-level hierarchy of reliability is much 'flatter' than might be immediately apparent. Under level 1, accounting systems are, in theory, passive 'observers' of prices. Under level 3, accounting is a market value discovery system with the help of methodologies from financial economics. Yet once it is admitted that market prices may not reveal fundamental value, due to liquidity issues or other reasons, then it can be argued that the real foundation of fair value lies in economic valuation methodologies; level 3 methods are in fact the engine of markets themselves, capable of 'discovering' values for accounting objects which can only be sold in 'imaginary markets'. It follows that the hierarchy is more of a liquidity hierarchy than one of method, but overall it expresses the

imperative of market alignment which informs fair value enthusiasts.

The sociology of reliability to emerge from these arguments suggests that subjectivity and uncertainty can be transformed into acceptable fact via strategies which appeal to broader values in the institutional environment which even opponents must accept. Accounting 'estimates' can acquire authority when they come to be embedded in taken-for-granted routines – hence the significance of the IVSC and similar bodies. So long as a sufficient consensus holds, and asset markets are orderly and generally liquid, then the circle which links models and markets is virtuous and broadly performative. In this way fair values, for all their fictionality and apparent intellectual incoherence (Ravenscroft and Williams, 2009), could define what it is to be reliable at a point in time. Market liquidity would be the effect of consensus – the flip side of reliability. However, even before the 2007–2009 financial crisis, the consensus supporting the use of fair value measurement beyond highly liquid financial asset markets was problematic, thus making its social and institutional foundations more visible than they might ordinarily be.

In summary, it has been argued that different conceptions of what it is for an accounting estimate to be reliable underlie the fair value debate as it has taken shape in the last decade. The language of subjectivity and objectivity is unhelpful in characterising what is at stake; it is more useful to focus on the question of how certain valuation technologies do or don't become institutionally accepted as producing facts (Napier and Power, 1992). This is a sociological question which will be further explored below. The analysis which follows is less concerned to adjudicate on the rights and wrongs of fair value and more focused on understanding the deep conditions of possibility for fair values to be widely promoted. From this point of view, the use of fair values in accounting represents a new basis for accounting fact production which, as we shall see, is grounded in the cultural authority of financial economics.

3. Financial economics, users and relevance

The emergence of 'fair value' measurement in accounting takes place against the backdrop of larger transformations in financial markets and in finance as a body of knowledge. Whitley (1986) analyses the transformation of business finance into financial economics in the US as part of the post-second world war expansion and scientisation of economics. With the shift from a largely descriptive discipline to the use of advanced statistical tech-

niques, finance aspired to be part of a new body of analytical economics dealing with asset valuation in idealised settings of perfect markets. According to Whitley, this analytical work in finance was low in uncertainty because of its ideal-typical nature, but it faced the problem of correspondence rules which might link its insights with testable empirical enquiry. The priority of theory as high status work meant that econometric difficulty was subservient to analytical models operating with relatively simple axioms of behaviour.

Whitley is not alone in suggesting that the efficient market hypothesis (EMH) is only seemingly descriptive. To say that current market prices provide the best estimate of the fair value of securities in fact says little about actual markets; it 'simply specifies the conditions under which market equilibrium occurs in terms of expected returns reflecting available information', conditions which cannot be falsified without elaborate correspondence rules and which in any case say little about the process of adjustment to equilibrium.

Whitley (1986) also suggests that portfolio theory, as a separate strand of development, formalised the benefits of investment diversification and led to the Capital Asset Pricing Model (CAPM) which is now part of the standard syllabus for professional accounting students. In developing the idea that asset prices depend on the sensitivity of expected returns to market variance (β), CAPM is in effect an elaboration and definition of what is meant by rationality (Whitley, 1986: 177). Despite its unreality and difficulty of empirically testing, the distinctive combination of analytical cohesion, empirical ambiguity and the absence of competition drove the expanded significance of CAPM. According to Whitley, employers and financial elites embraced and supported the institutionalisation of the underlying neoclassical conceptions of economic theory and analysis because of the demand for knowledge created by the rise of capital markets. The growth of intermediaries, pension funds, corporate treasury and portfolio management all concerned with the management of capital assets provided a benign setting for the growth of teaching and research in finance, using skill sets also in demand by employers. Despite the unreality of the core elements of knowledge, such as the tendency to assume perfect markets, the knowledge base of financial economics gained legitimacy and value for practitioners in a way that no other sub-field of management studies has achieved because:

'The transfer of knowledge from finance theory to investment practitioner, then, was largely a

transfer of technical procedures and skills through the educational system and a direct transfer of a particular measuring instrument for particular purposes. It was not, I suggest, the transfer of a true theory which transformed and directed practical activities.' (Whitley, 1986: 185)

Accordingly, Whitley suggests that the close links with practice had more to do with financial economics as a reputational system and less to do with the direct applicability of its analytical core. This is consistent with Hopwood's (2009: 549) critique of the 'growing distance of the academic finance knowledge base from the complexities of practice and practical institutions.' Yet, as Abbott (1988) has argued, purely 'academic' knowledge has always played a significant role for professions, providing the rational theorisations need by practice. Financial economics is almost the perfect example of this.

The financial crisis has provided the occasion for widespread criticism of finance and economics as disciplines, not least from within economics itself.⁷ And when leading UK economists feel it is necessary to write to the Queen, it is clear that something is amiss.⁸ Colander et al. (2009) argue that the economics profession has 'failed' and that this failure has deep methodological roots in highly stylised macro-economic models developed in periods of low volatility: 'Market participants will ignore the influence of their own behaviour on the stability of the system.' In addition, the mathematical rigour of models yields only control illusion and

⁷ 'Few economists saw our current crisis coming, but this predictive failure was the least of the field's problems. More important was the profession's blindness to the very possibility of catastrophic failures in a market economy ... the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth ... economists fell back in love with the old, idealized vision of an economy in which rational individuals interact in perfect markets, this time gussied up with fancy equations ... Unfortunately, this romanticized and sanitized vision of the economy led most economists to ignore all the things that can go wrong. They turned a blind eye to the limitations of human rationality that often lead to bubbles and busts; to the problems of institutions that run amok; to the imperfections of markets – especially financial markets – that can cause the economy's operating system to undergo sudden, unpredictable crashes; and to the dangers created when regulators don't believe in regulation ... When it comes to the all-too-human problem of recessions and depressions, economists need to abandon the neat but wrong solution of assuming that everyone is rational and markets work perfectly.' (Paul Krugman, 'How did economists get it so wrong?' *New York Times*, 2 September 2009.). Furthermore, the Efficient Markets Hypothesis as one of the leading tenets of modern financial theory has been proclaimed 'dead' (*Time*, 22 June 2009; Fox, 2009).

⁸ Besley, T. and Hennessy, P. 'Letter to Her Majesty the Queen', 22 July 2009, British Academy, 2009.

'model uncertainty should be taken into account by applying more than a single model.' More specifically, it is suggested that 'the introduction of new derivatives was rather seen through the lens of general equilibrium models: more contingent claims help to achieve higher efficiency' (p. 12). It is argued that models which assume away the dynamic interaction of heterogeneous actors will fail to grasp how the price system itself can be destabilising as expectations change.

In short, finance as a body of knowledge failed to internalise principal-agent problems in the investment arena; it has been and is bad organisation theory (Vayanos and Woolley, 2009). To the extent that fair value accounting has been implicitly dependent on many tenets of finance theory, it is necessarily implicated in the critique: "'fair value" is accounting trying to be finance. This produces an illusion of intellectual rigour and opaque financial statements."⁹ A further consequence of this for accounting policy has been an abstracted conception of the user of financial statements (Young, 2006).

Despite these recent criticisms of financial economics and its implications for fair value, we should not overlook its dominant cultural and technical authority as a style of reasoning spanning academia and practice. We cannot yet know where contemporary criticism of financial economics will lead, but the absence of an obvious alternative discourse suggests that it will continue to be a highly legitimised body of knowledge. For example, one of the dominant research traditions of financial accounting developed with the use of financial econometric methods involves the investigation of security price reactivity to accounting information. For many years this 'market-based' research has been regarded as remote from accounting policy, even drawing complaints from practitioners that it was irrelevant to policy makers. Nevertheless leading representatives of this research tradition have been drawn into the policy process (e.g. Katherine Schipper – FASB; Mary Barth – IASB). Individuals like this are not automatically in a position to apply the results of market-based accounting research directly and their appointments should be interpreted as partly reputational and partly technical in nature. Indeed, Barth herself recognises that market-based accounting research results are a resource for regulators but not determinative because of the need to make 'social welfare trade-offs' (Barth, 2007). Yet, such appoint-

ees are also themselves part of the reputational system generated by financial economics and in this respect can be regarded as 'carriers' of a certain style of knowledge into the accounting policy process.

All disciplines and professions require a degree of abstraction in their knowledge base (Abbott, 1988). In principle there is nothing wrong with this. No doubt conceptualising the heterogeneity of real users via the lens of, say, behavioural economics or the psychology of risk perception would create significant knowledge burdens for any accounting policy process. But financial accounting is, and always will be, something of a hybrid discipline, drawing on, and adapting, specific elements of law and economics. In this section it has been suggested that financial accounting has increasingly drawn on the cultural authority of financial economics – even though that authority is now in question. Within the narrative of fair value accounting which financial economics supports, relevance and reliability are not the opposing values often taught to accounting students. Both are mutually supportive constructs mediated by deep seated beliefs about markets and market-facing valuation methods, as the problem of accounting for derivatives demonstrates.

4. Derivatives: the fair value catalyst

The relationship between accounting and economics is not a new topic and has been discussed in different national settings.¹⁰ However, the rise of fair value in general, and the specific challenges of accounting for derivatives and other financial instruments, suggest a new and distinctive episode in this relationship – what might tentatively be described as the 'financialisation of financial accounting'. Perhaps the most established and practical element of financial economics is discounting, founded in theories of the time value of money. Notwithstanding technical issues to do with choice of discount rate and projection of cash flows, discounting is so highly institutionalised that it is hard to believe that there was a time when its use in investment appraisal was deeply distrusted by practitioners (Miller, 1991). The history of lease accounting provides a self-contained example of how discounting techniques over relatively short time horizons helped to define finance leases with implications for the balance sheet recognition of related assets and liabilities. Yet, this aspect of business finance was very far from challenging the prevailing mixed measurement accounting system,

⁹ Letter from Mr Alex Pollock, American Enterprise Institute, *Financial Times*, 9 April 2007.

¹⁰ See the special issue of the *European Accounting Review* 1996 5(3) on this topic.

predominantly historical cost modified by asset-specific revaluations.

Pension scheme accounting provides another important example of the intersection of accounting and financial economics (Napier, 2009). Questions of pension definition and liability recognition have been challenging for accounting policy makers and debate has focused on whether actuarial funding calculations should be the basis for liability measurement or whether some 'fair value' of those liabilities' exchange value in an open market should be used. Actuaries and accountants might dispute the discount rate together with other life and salary growth assumptions, but both operate with models which project cash flows.¹¹

In these and other possible examples, valuation elements of financial economics within financial accounting were to a greater or lesser extent adopted in a reactive and piecemeal fashion. The problem of accounting for financial instruments and, in particular, derivatives (options, swaps and instruments whose value depends on – is 'derived' from – some conditional variable) took these accounting debates to a new place. Derivatives rapidly became a critical object for the FASB following a series of public scandals in the mid-1990s and initial policy responses focused on improving disclosure and basic risk visibility until FAS 133 *Accounting for derivative instruments and hedging activities* was published (FASB, 1998). This became a script for later iterations, not least IAS 39 *Financial instruments: recognition and measurement* issued by the IASB in 2004 (Dunne, 2004).

Derivatives by their very nature posed a fundamental challenge to existing accounting 'logics of appropriateness' (Young, 1994) grounded in the realisation concept, largely because their 'historical' cost, if such existed, was widely agreed to be irrelevant to their value over time. Furthermore, there was a general problem of financial classification based on managerial intention to hold such instruments to maturity or as stock for trading. The hedging debate was, and remains, so heated precisely because management intention and strategy simply does not fit easily into financial reporting logic. As a result, accounting policy quickly developed a highly problematic and politicised relationship to the business models it aspired to represent. In the EU there was pressure for a 'carve-out' or exemption for European banks using

IAS 39. So it is clear that derivatives and other financial instruments posed significant difficulties for accounting policy makers.

In 2000 a Joint Working Group (JWG) of international standard-setters led by IASC published a draft standard on financial instruments. Walton (2004) suggests that this group operated outside of normal IASC business and was therefore able to adopt a more radical and 'pure' position, namely the wide promotion of fair value for all financial instruments and a prohibition on hedge accounting. The JWG was also clear on the issue of reliability: 'sufficiently *reliable* estimates of the fair value of financial instruments are obtainable for financial reporting purposes ... if the fair value of a financial instrument cannot be based on observable market prices, it should be estimated using a valuation technique that is consistent with *accepted* economic pricing methodologies.' (emphases added).

The challenge of accounting for derivatives was also a crucial transformative catalyst in the history of fair value because it demanded a return to fundamentals and was in an important sense a test case for the ambition and coherence of conceptual frameworks for accounting which had been developing since the early 1970s. In the consideration of fundamentals it was logically necessary to consider financial instruments as a whole, a process through which the fair value concept was inevitably made potentially expandable in scope.¹² The JWG process was an important stage for the construction of fair value as a world-level accounting measurement principle despite the operational issues in implementing specific standards. JWG focused on the use of fair value for financial assets and liabilities in well-organised markets. The 'steadily expanding volume of financial assets' (Perry and Nölke, 2006) characterising the rise of financial capitalism made this a solid platform for the promotion of fair values, not just as a technique but as a belief system for its, often beleaguered, proponents.¹³

Via successive documents, fair value accounting came to be articulated as an abstract principle of accounting measurement with the implied support and authority of financial economics. This is consistent with Bromwich's (2007) view that there

¹¹ The near collapse of Equitable Life in 2000 created pressure for reform within the UK actuarial profession, one dimension of which was to encourage closer methodological alignment with financial economics. It was argued that actuarial science needed to 'modernise'.

¹² The UK context can be contrasted with the US where the conceptual framework created pressures for consistency, and hence generalisability, of fair value arguments. Given FASB's institutional commitment to the credibility and utility of the conceptual framework project, there was no limit in principle to the expansion in scope of fair value accounting.

¹³ The support for fair value accounting by the CFA Institute in the US has been important for these proponents. See CFA (2007).

is a manifest absence of developed rationale for fair value throughout its meteoric rise. Principles are, almost by design, removed from the dirty world of implementation; because of this they can be durable at the conceptual level despite surface level conflict and opposition. Indeed, this is a powerful strategy; by displacing the heat of the debate into issues of scope and application, a principle can be protected.

The catalytic role of derivatives for the promotion of fair value accounting is only partly to do with the relative importance of derivatives specifically or financial instruments generally in the balance sheets of any specific institution, although clearly their materiality for many financial institutions was a driver of the politics. Similarly, it is only partly to do with the use of valuation models as a basis for measuring and reporting less liquid financial assets on balance sheets, although this has undoubtedly been a hot spot during the crisis. These two factors, while important, don't explain the rapid world level institutionalisation of the idea of fair value accounting against considerable resistance. The reason is that supporters of fair values managed to occupy a conceptual space which implicitly redefined accounting reliability with the foundational support of financial economics. Fair value at the level of principle is becoming a kind of 'rational myth' in the sense of depending for its efficacy and reality on the fact that it is widely believed (Scott, 1992: 14); the many critics of fair values have had no clearly definable alternative abstract rational myth to offer in its place, notwithstanding their appeal to values such as stewardship.

To summarise: proponents of fair values in accounting argue for their greater relevance to users of financial information, but the deeper point is that they also redefine the reliability of fair values supported by financial economics, both in terms of specific assumptions and in terms of its general cultural authority. Against sceptics, key accounting policy makers were able to acquire confidence in a knowledge base for accounting estimates rooted in a legitimised discipline. Derivatives accounting was a rough ride at one level, but it has also served to embed further the principle of fair value accounting as the 'mirror' of the market. The absence of a competing grand narrative is telling; it means that critics are forced to compete at the level of implementation, which is necessarily messy.

5. The de-legalisation of the balance sheet

The balance sheet is the core institution of financial accounting, with a history of formation reaching back centuries to the mercantile invention of the double-entry method. Since the earliest steps

towards a formal conceptual framework by FASB in the 1970s, and subsequent work by national standard-setters and lately the IASB, this institution has undergone a process of radicalisation, increasingly via the reforming pressure of basic concepts from financial economics. Beginning with core definitions of assets and liabilities in terms of future cash flows, an asset-liability emphasis has progressively taken hold, leaving the income statement as conceptually residual. As a consequence, the concept of 'realisation' no longer has the position and authority which it once did. An obvious consequence of this shift has been a heightened focus on accounting measurement grounded in the asset-liability 'logic' rather than the transactional view, with controversial implications for traditional ideas about income recognition. This balance sheet approach, which has been under construction for decades, generated a need for its components to be meaningful rather than residual and thereby provided fertile ground for the promotion of varieties of current value approaches, including fair value.

In recent times the balance sheet has been a 'juridical' representational device embodied in the legal systems of many different countries. This may be an obvious statement but not a trivial one. Fair value is not itself a legal concept and its emergence depends on a broader process of what we might call the 'de-legalisation' of accounting. Legal systems at the state and supra-state levels now delegate accounting rule-making authority to national agencies which are highly autonomous. The IASB is conspicuously autonomous, having no delegated authority from states, but seeks their individual and collective recognition for its standards.

It is particularly noticeable that the debate about fair value seems not to involve law and commercial lawyers, at least not in the central dispute about measurement. Again this may seem obvious, but both the proponents and opponents of fair value do not seem to operate or argue in the 'shadow' of law. That shadow appears to be largely absent because the background narrative and source of authority is that of financial economics and the assumed information needs of users in markets.

So the 'institutional' nature of the balance sheet has been progressively transformed and de-legalised over the last three decades, creating the conditions of possibility for its further radicalisation by the proponents of fair value. It can be said that the 'shadow of law' is being replaced by 'the shadow of financial economics.' From this point of view, measurement issues are much more than mere accounting methods but represent an entire basis for re-engineering the intellectual ecology of the bal-

ance sheet. This helps to explain the 'weakness of the strong' opposition to fair value; they cannot deny the significance of measurement of the kind that is core to financial statements, and they cannot deny the difficulties of using historical costs in many accounting categories. They must occupy the narrower space of an alternative measurement philosophy (e.g. deprival value), must risk suggesting that the balance sheet primacy has been mistaken or must resort to naked political power.

There may be serious difficulties ahead for the radicalisation of the balance sheet via fair values. First, the increasing importance of the need to understand risk is a challenge to the logic of the balance sheet: 'Fair values reflect point estimates and by themselves do not result in transparent financial statements. Additional disclosures are necessary to bring meaning to these fair value estimates' (Bies, 2004). Yet, risk disclosures, such as those which appear in what is now called the 'front half' of UK annual reports do not articulate easily with balance sheet point values without some pro-forma mediating statement indicating possible variations and sensitivities in those values. Second, there are some outright income statement anomalies which FASB and IASB have been forced to recognise. A deterioration in credit risk may create income effects using fair values which are counter-intuitive. As Macve puts it, this reflects a 'general failure by standard setters *directly* to consider the income effects of their proposals for asset and liability valuation'. Perhaps, he suggests, 'consequences for reported income should dominate the standard-setting decision'.¹⁴ It is worth noting that these conceptually embarrassing effects of fair value are products of an intellectual landscape in which the authority of law has been displaced by that of financial economics.

This change in the intellectual centre of gravity for balance sheet reliability – from the juridical to the economic – has profound implications for auditors. Whereas it might be argued that auditing values have been the dominant force in shaping and constraining the historical development of financial accounting, the fair value programme is forcing traditional auditability values into a subsidiary position. In the fair value world, auditing is more or less forced to hitch a ride on the numbers produced by the fair value measurement process or subcontract modelling expertise where necessary. It is hardly surprising that this has led to some tension

between the International Auditing and Assurance Standards Board (IAASB) and IASB. The former has been forced to react to fair value accounting with auditing guidance, rather than having a seat at the accounting development table (IAASB, 2008). Indeed, one of the most significant effects of the rise of fair value is that a large part of audit 'quality' is now in the hands of accounting standard-setters.

6. The professionalisation of accounting standard-setters

The rise of the IASC and its reconstitution as the IASB has caught the attention of political scientists as a powerful case study in the emergence of a transnational institution (Botzem and Quack, 2006, 2009). It can be hypothesised that the emerging significance of fair value is closely bound up with the development of an independent professional and expert regulatory identity for those who work in standard-setting bodies and for the bodies themselves. Thus, Perry and Nölke (2006: 578) suggest that fair value is central to the transnational authority of IASB – 'technical solutions are never purely technical'. Similarly, as Abbott (1988) notes, 'technical innovation is simultaneously a jurisdictional claim about the authority of expertise'.

Barth (2007) addresses the expertise issue very directly and outlines the demands posed by fair value accounting for both preparers and standard-setters: 'accountants must become more *comfortable* with valuation theories, techniques and practicalities' (emphasis added). So the intellectualisation of financial reporting in the shadow of financial economics is not simply an issue of technical measurement – it is a blueprint for redesigning the knowledge base of an entire profession. Accounting standard-setters have been at the forefront of this change programme, raising the intellectual entry costs for being both a credible regulator and a credible participant in the debate. It is possible that accounting policy communities have consequently become smaller and more specialised, although this is an assertion that needs to be tested.

The rise of asset–liability centred conceptual framework projects discussed in the previous section involved considerable professional and resource commitment. For this reason – intellectual sunk costs – standard-setting forums may be less sensitive to questions of cost-benefit and to implementation frictions than they might profess. The rise of fair value measurement is correlated with an increasingly 'autonomous' institutional basis for standard-setting (ICAEW, 2006) and key individuals have been important in establishing styles of reasoning about accounting policy. So the fair value

¹⁴ See R. Macve, Comment Letter on IASB Discussion Paper: Credit Risk in Liability Measurement DP/2009/2, 2 September 2009.

project, and the cultural authority of financial economics noted above, also reflect the construction of a new kind of professional identity for standard-setters. This identity is more decoupled from the accounting professions than might be imagined because the reference points and reputational constituencies for standard-setters have shifted towards a larger system of transnational regulation and world governance (Djelic and Sahlin-Andersson, 2006).

It can also be argued that the embedding of accounting standard-setters in a system of world governance renders these bodies less sensitive to specific private interests, though perhaps more sensitive to other transnational bodies such as the SEC, the Basel Committee, the 'G4 + 1', IOSCO and, as the experience of IAS 39 has shown, specific nation states wishing to exercise veto rights. Perry and Nölke (2006) argue that fair value is also part of the disembedding and isolation of accounting standard-setting from society, by which they mean the decline of non-business commentators such as trade unions. In a similar way, Walton (2004) analyses the early politics of IAS39 in terms of a collision between different models of the standard-setting process, namely between an autonomous technical process on the one hand and, on the other hand, a 'multi-disciplinary cooperation and the representation of the widest possible range of different users of accounting.' (Hoarau quoted in Walton, 2004).

The recent financial crisis has reconnected accounting policy rather abruptly to society and the technical autonomy of the IASB has been challenged again, creating a dilemma for critics of fair value who are also supporters of policy independence. The expanded idea of fair value accounting, as much as its specific applications, has been important to the positioning of the accounting policy process in a world governance architecture. From this point of view, the pursuit of market relevance for financial accounting is also the pursuit of relevance for standard-setters on the world stage. It is therefore hardly surprising that financial accounting has become increasingly remote from rank and file accountants; accounting policy simply has very little to do with them and their local conceptions of reliability in accounting. The official concept of reliability has been subsumed by a professional and technical quest for standard-setting relevance defined in terms of the market.

The political economy of the world of accounting standards and fair value measurement might be analysed using a distinction developed elsewhere (Power, 2005) between *calculative idealists* and

calculative pragmatists.¹⁵ As Whittington (2008) notes, policy bodies are not homogenous and dissent is increasingly public, so it is useful to think more of two worldviews which may be represented to varying degrees within the membership of these bodies. Calculative idealists regard mixed measurement systems as being deeply flawed and of limited value to users; there needs to be a single measurement basis for accounting which is, as far possible, independent of management estimates (CFA, 2007: 8–9). Calculative idealists would expand the scope of fair value accounting into non-financial items, drawing on credible valuation expertise where necessary:

'Although the FASB's present fair value accounting focus is on financial instruments, our discussion applies to all assets because ... the most important attribute of an asset as it relates to fair value accounting is whether an estimate of its value is easily obtainable, either because active markets exist for it or there are accepted techniques for estimating its fair value, and not whether it is a financial or non-financial asset' (Barth and Landsman, 1995: 98 fn 2).

Calculative idealists tend to have a strong background or affinity with elements of financial economics which, while admitting to not always being applicable to 'realistic settings', nevertheless provide an intellectual centre of gravity for thinking about value and underwriting the expandability of fair values. Theirs is in essence a 'financialised accounting model' based on principles of fair value which are remote from managerial needs and decision making (Bignon et al., 2009: 6).

In contrast, calculative pragmatists are more tolerant of mixed accounting measurement systems. They recognise the merits of fair value accounting and marking to market for liquid tradeable assets, and are often as critical of historical cost accounting as the idealists. Yet pragmatists also sense the benefits of disclosure and are more sensitive to the balance sheet as a source of information hygiene – a point of triangulation in a wider information ecosystem (Miller and O'Leary, 2000). This means that they are less hung up on getting measurement 'right'. For example, Ronen (2008) argues that risk analysis can only take place as reflection on the triangular relationship between firm market value, management's value in use, and the exit value of individual assets. Fair value

¹⁵ This distinction is very similar, though not identical to that developed by Lennard (2002) between 'reds' and 'blues' and also taken up by Whittington (2008).

provides only one component of this triad. Similarly, supporters of deprival value are inherently pragmatists, suggesting that exit values only make sense in very specific circumstances. From this point of view, accounting valuation and financial valuation are 'two distinct logics and two complementary sources of information' with different markets for interpretation (Bignon et al., 2009: 21).¹⁶ The fair value project is an elision of these two logics with their respectively different conceptions of reliability.

It should be emphasised that the working distinction between idealists and pragmatists cuts across and is not reducible to other convenient dualisms. For example, it is not a distinction between academic and practitioner viewpoints, or between economic and non-economic viewpoints. Many practitioners and academics fall into the pragmatist camp, and pragmatists might draw on different areas of economics, such as game theory. Yet it is also true that political pressures in 2009 have forced idealists to be more pragmatic, and pragmatists' concerns about the politicisation of accounting policy have seen them come to the support of idealists. The picture is complex and changing, not least because proponents of fair value have managed to establish a predominantly 'exit value' approach at the expense of other would be idealisms, such as 'replacement cost' and value to the business. This suggests that 'fair value' initially operated as a 'boundary object' for different current value idealists, each of whom saw the concept in different ways, but over time became determined and specified by the proponents of exit value.¹⁷

The idea that fair value measurement is part of a professional identity project for technical standard-setting helps to explain a striking feature of the accounting policy discussions; the predominantly self-generated, even missionary nature of pressures for reform. If the balance sheet is an institutionalised point of triangulation in a wider information ecology, it is unlikely that the pressure for change, i.e. for the expanded use of fair values in accounting, comes from real users in real markets. Of course there are many parties who would find

disclosed information on fair values useful if it were provided, such as institutional investors and analysts. But this is not the same as saying that there has been a stampede of demands for accounting reform. The overwhelming impression is that the rise of fair value has been driven by conceptions of 'good accounting' from within a community of technical accounting enthusiasts pursuing a closer alignment of accounting and markets. As many commentators have noted, if this alignment were possible, accounting would become unnecessary. So the underlying pursuit of alignment may be paradoxical in itself.

7. Conclusion

The financial crisis has certainly raised the stakes in the fair value debate and standard-setters have been forced to compromise on asset classifications and other matters. At the time of writing the future direction of FASB and IASB on fair value is uncertain. Banks have undoubtedly used the crisis to strengthen their opposition to aspects of the use of fair values in accounting and their arguments mingle 'potentially well-founded concerns with a general desire for flexibility' (Laux and Leuz, 2009). Proponents of fair value have warned against its suspension, holding to the belief that it must be used regardless of the condition of markets. Even opponents of the wide use of fair value have expressed concern at the extent of political intervention in what should be an independent policy process. At the same time there has been extensive criticism of the foundations of financial economics and macro-economics. Yet, while the intellectual premises of fair value accounting have been shaken, the absence of an obvious competitor means that these arguments cannot provide a decisive knock out at the policy level. The picture has been and remains complex.

This essay began with an ambition to address how and why fair value accounting acquired significance. The arguments above step back from the technical detail in order to focus more on the underlying conditions of possibility for the rise of fair value, despite apparent widespread opposition. Four key conditions of possibility have been analysed: the cultural authority of financial economics; the necessity of addressing the problem of derivatives accounting; the transformation of the balance sheet from a juridical into an economic institution; and the professionalisation accounting standard-setters as actors in a world governance system. These mutually reinforcing processes help to explain the rise of fair value as an abstract

¹⁶ These two logics were also distinguished in a fascinating exchange of letters between Chambers and Shackle in terms of the difference between a balance sheet and a prospectus (Dean, 2008: vi).

¹⁷ A boundary object inhabits 'several communities of practice and satisf[ies] the informational requirements of each of them. Boundary objects are both plastic enough to adapt to local needs and constraints, yet robust enough to maintain a common identity across sites' (Bowker and Star, 1999: 297). In this respect, the status of 'fair value' is not dissimilar to that of 'value-added' as analysed by Burchell et al. (1985).

principle, promoted by a minority in the face of considerable opposition and critique.

Finally, a tentative 'sociology of reliability' underlies the arguments above. Accounting reliability is ultimately a matter of sufficiency of social consensus and powerful proponents of fair value have succeeded, at least for a while, in shifting the basis of that consensus from the legal reality of documented transactions to the financial reality of asset and liability values based on discounted estimates of future cash flows. Critics who point to the 'imaginary' world of fair values also underestimate how intellectually impure fictions can become institutionalised and have real effects. We often assume that a valuation technology is accepted in practice because of its technical superiority, but it is also a sociological truth that such technologies will seem superior if they are widely accepted and if they can appeal to deeply held cultural values, such as those provided by financial economics (Napier and Power, 1992). Yet, the importation of financial economics into accounting via fair value measurement is also partial, impure and pragmatic. This suggests that the 'financialisation' of financial accounting is not absolute but highly selective; that accounting will always be – whatever the extent of use of fair values – an impure hybrid of elements within a highly institutionalised presentational frame. Notions of relevance and reliability, which may seem to be intuitive and commonsensical, in fact cannot be defined independently of this system of elements and are always subject to change. Future historians are likely to look back at the high point of fair value idealism as an interesting episode in the otherwise largely pragmatic development of financial reporting.

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Response to 'Fair value accounting, financial economics and the transformation of reliability'

Patricia McConnell*

As a very new member of the IASB that comes not from public accounting or academe but from the investment community, I am often asked two questions: 'Do investors want fair value information?' and 'Why is fair value information useful to investors?'

The short answer to the first question is that investing is all about fair value. Very simply, a decision about whether to purchase, sell or hold an investment generally is based on its fair value and expectations about future changes in its fair value relative to other investment opportunities.

Typically, the answer to the second question is that fair value impounds the most current and complete assessment about the value of an item because it impounds all the available information about the amount, time and uncertainty of the net cash flows generated by an item. That is a very nice theoretical statement and, while it is true, I think those who ask me that question are often looking for a more practical answer. The most practical use of fair value information by investors is in financial statement analysis. The underlying objective of financial statement analysis is the comparative measure of risk and return, but general purpose financial statements do not provide the data necessary for this comparative assessment without significant adjustment.

Skilled chartered accountants may be wondering why anyone would want to adjust the financial statements that they have so painstakingly prepared and audited; but the reason should be obvious to them. The historic cost financial statements do not produce information useful for comparative analysis. Many assets and liabilities are recorded at price levels that existed when they were acquired and, further, accounting choices such as depreciation methods, inventory methods, etc., detract from the

comparison. These are only some of the deficiencies.

So financial statement adjustments made in financial analysis include adjustments to reflect accounting differences, adjustments for off-balance-sheet financing, adjustments to restate assets to current values, and adjustments to reflect the capital structure at current value.

I use the term 'current value' rather than 'fair value' to describe the adjustments to an entity's assets and capital structure because 'fair value' now has a precise meaning in accounting literature. The values available to analysts for use in adjusting financial statements rarely meet that definition at the moment. However, the objective is the same. So it has been common practice for many years – longer than I have been a practising analyst, which is a very long time – for investors to use all the information at their disposal to adjust balance sheets to current value. Some of these adjustments are straightforward and others are complicated. Some are just a whim.

For example, financial reporting standards increasingly require recognition or disclosure of the fair value of financial instruments. This has facilitated the investor's balance sheet adjustments for these items. Another common adjustment, at least in the US, is adjusting inventory balances from last in, first out (LIFO) to first in, first out (FIFO). Currently, the FIFO balance of inventory would not meet the accounting definition of fair value, but it is a measure of current value when inflation is low and it is the best estimate available today to an investor. However, it is more difficult to substitute a current value or fair value for other non-financial assets like real estate, timberland and mineral properties, but there are methods to do this. Estimating the current value of an operating facility such as a factory is more problematical. For intangibles like brand names, customer relationships and technology, it is difficult, if not impractical, for an outside investor to place a current value on them. A popular

*The author is a member of the International Accounting Standards Board (IASB). E-mail: pmcconnell@iasb.org.

American textbook on financial statement analysis suggests over 30 balance sheet adjustments, and provides suggestions for doing them.

The adjusted values of the assets less the adjusted value of the liabilities gives the new adjusted book value of the entity. This adjusted book value is used for calculating ratios such as book value per share and the debt-to-equity ratio. The adjusted value of assets is used to calculate such ratios as return on asset and asset turnover, and the adjusted value of debt is used to calculate the weighted average cost of capital in addition to the debt-equity ratio. Since the calculations are made using adjusted information, companies being considered for investment can be more easily and fairly compared. So it is no surprise then that 74% of chartered financial analysts (CFAs) responding to a survey from the CFA Institute responded that fair value was either very important or important to their work.

I have to ask myself, therefore: Why then has the IASB's extensive outreach to the investment community for its financial instruments, classification and measurement project produced such mixed results? I can really only speculate. The CFA Institute survey was asking analysts about the usefulness of fair value information in general. It did not get into the details of where investors might like to see the information. That is, whether they wanted it in the footnotes or in the financial statements themselves, in the balance sheet only, or did they want full fair value through profit and loss (P&L)? In contrast, the current IASB outreach is focused on very specific recommendations for financial instruments.

My personal interpretation of what I have been hearing from the investment community regarding the proposed revisions of IAS 39 is as follows. There is more support for fair value information in North America than in other parts of the world, but there are also more investors and at least more dollars to invest in North America as well.

Even in North America the support for fair value has waned since the financial crisis. There are even those who do not think that fair value should be prominently displayed, for example, on the face of the balance sheet. They seem to fear that other investors and market participants are not as smart as they are, and that they will misinterpret changing fair values, which in turn will cause procyclicality. They also seem to worry that potential differences between reported generally accepted accounting principles (GAAP) capital and regulatory capital will lead to a loss of confidence, not just in particular financial institutions, but in the financial system as a whole.

However, in North America there are a few, those that I would characterise as the 'thought leaders', who support full fair value through P&L for all financial instruments. They believe that fair value is a more meaningful measure than historic or amortised cost for financial instruments. They believe that measuring instruments at fair value will be much simpler and easier to understand than IAS39 even when factoring in the complexity of valuing complex, thinly traded or non-traded instruments. They also believe that accounting for all financial instruments at fair value through P&L will minimise the growing trend towards earnings management, and, of course, they firmly believe that it will enhance inter-company comparability.

I am not discouraged, even though the feedback has been mixed. I believe that accounting changes need to be evolutionary and not revolutionary and I believe that investor perceptions regarding fair value information have been evolving.

In the late 1990s when the old International Accounting Standards Committee (IASC), on which I was privileged to represent investors, circulated a proposal for full fair value through P&L for all financial instruments there was almost universal disagreement, even in the investment community. In the early years of this century, after the collapse of Enron and the role that fair value accounting played in that debacle, I thought that fair value accounting would languish for another generation. But support has continued to grow, albeit slowly. The financial crisis has resulted in another setback to its popularity, but I believe that the more it is discussed, both the pros and the cons, the better its relative strengths and weaknesses will become evident and the support for it will continue to grow.

This was my experience with accounting on employee stock compensation. In the early 1990s, when the Financial Accounting Standards Board (FASB) first proposed expensing the value of employee stock options using an option pricing model to estimate the value, there was almost no support in the investment community. Opponents made the following arguments against it: the value was unreliable; it would be double-counting because employee stock options are included in the denominator of earnings per share; they have no cash flow impact; and it is not a big problem!

The story is well known. The FASB backed off from its proposal in 1994 and instead proposed footnote disclosure of what income and earnings per share would have been if the options had been expensed. During the technology and internet boom of the 1990s the use of employee stock options

grew meteorically. Footnote disclosure allowed investors to see the impact employee stock options were having on the value of their investments. By the turn of this century many investors were clamouring for the actual recognition of employee stock option expense, although there were still those that fought against it, largely technology or internet analysts.

I think the lesson from this experience for standard-setters is clear: change must be gradual. Preparers, auditors, investors and regulators all need time to digest and understand the change and to adjust to it. However, in my mind the trend towards general acceptance of fair value accounting for financial instruments is meeting with growing acceptance in the investment community.

The political economy of regulation: does it have any lessons for accounting research?

Michael Moran*

Abstract — The paper argues that regulation is at the heart of markets, and that regulation is itself an inherently political process. It explores how this insight works out by examining a range of real existing national regulatory systems – notably the US, the UK and the European Union. It argues that political jurisdiction matters, because of the influence of institutional structure, political culture and historical trajectory. It suggests that these insights need to be central to accounting research, because at the heart of accounting research lie processes which are critical to the regulation of economic life.

Keywords: regulation; politics; accounting; law; government

1. Politics, economics and regulation

The regulation of economic life is where politics and economics meet; in that simple sense everything to do with regulation concerns political economy. Of course in the academic languages of both political economy and of regulation many meanings and theories jostle for primacy. Indeed, in academic worlds increasingly plagued by over-specialisation both ‘political economy’ and ‘regulation’ have emerged as unifying notions: intellectual locations where scholars and practitioners can emerge from different disciplinary silos to talk to each other (Moran, 2002).

A necessarily brief paper is not the place to scan the world of theory in political economy or of regulation (for such a scan see, for example, Eisner et al. 2006). But regulation is at the heart of any relationship between business and the modern state in one obvious sense: in modern capitalist systems the way business engages with markets is conditioned by a state-backed regulatory framework. The most obvious form this takes is a set of rules governing market exchanges – the kind provided by, for instance, the system of commercial law. In this sense regulation of business life is ubiquitous in the modern market economy. And the theory and practice of accounting must lie at the heart of this, for accounting provides the critical social

technologies which enable regulation in this broad sense to be conducted in a market economy. ‘Regulation’ suggests the existence of a distinctive model of business–government relations: distinctive, for instance, from one where the state expects to replace the market economy with some more directive instruments, like public ownership. But it is here that the uncertainties begin. To put it a bit simply: there are two very different sources of our image of regulation, and what it implies for the role of the state in economic life. One is derived from a particular national experience; the other from the perceived experience of the wider economy of advanced capitalism in the last generation.

The single most important national system of capitalist democracy exists in the US. American capitalist democracy has been distinctive not only in its scale and global influence. It has also pioneered a special kind of state–business relationship. That has created an American ‘regulatory state’ – the most important formation on earth to deserve that title. As we shall see, this American regulatory state has a number of distinctive features: attitude to enterprise ownership; institutional forms; and historical trajectory.

We shall also see that the relationships developed between the regulatory state and business in the US have often been very different from those suggested by the second source of the phrase: those that derive from attempts to summarise what has happened to the relationship between the state and business community in the wider world of advanced capitalism, especially in Europe, over recent decades. This latter image of the regulatory state contrasts it with more interventionist models of economic management – and therefore with more interventionist models of the relationship between the state

*The author is the WJM Mackenzie Professor of Government at the School of Social Sciences, University of Manchester.

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Correspondence should be addressed to: Michael Moran, School of Social Sciences, Arthur Lewis Building, University of Manchester, Oxford Road, Manchester M13 9PL. Tel: 0161 275 4889.

and the business enterprise, and by extension between the state, accountancy and the business enterprise.

One of the quickest ways of appreciating what this latter image is trying to tell us is to reflect for a moment on what lies behind the picture of a 'regulator.' It is a metaphor, and one borrowed from regulation in physical systems. In a physical system – like a steam engine or centrally regulated domestic heating – the regulator is a balancer keeping the system in some pre-determined equilibrium. Applied to economic regulation this suggests that the state is a manager of the market system, but a manager that intervenes only to return it to some point of equilibrium. One of the most graphic images conveying this is provided by the highly influential work of Osborne and Gaebler (1992). They interpret long-term changes in the character of the modern state as involving a shift from 'rowing' to 'steering'. In the former, the state either commanded large scale resources, such as publicly owned industries, and used them to determine social and economic outcomes; or in the American instance which so concerned Osborne and Gaebler, it substituted direct ownership with regulation of a 'command and control' variety, issuing specific regulatory commands backed by the force of law. By contrast, when it chooses to 'steer' rather than 'row' the state is transformed into a kind of social 'pilot', guiding the systems of economy and society. This latter picture assigns the state a relatively subordinate role in its dealings with markets, for it is responding to signals, in the manner of a pilot, from its environment – and in democratic capitalism a dominant part of that environment is made up of the market system.

But here the ambiguities and uncertainties multiply. The image of a 'steering' state is not new, and some versions convey a very different meaning – indeed a sinister, anti-democratic meaning – from that involved in touching the tiller. The first great work of political theory, Plato's *Republic* (circa 400BC) offers an image of authoritarian political leadership in which an elite is pictured precisely in the language of the 'pilot' of society. At the other end of the time span, one of the most brutally authoritarian governing systems of the 20th century, that of Communist China, celebrated the leadership of the 'Great Helmsman', Mao Zedong – one of the most savage tyrants in a century of savage tyrants. Totalitarian steering of the kind practised by the Great Helmsman committed some of the greatest crimes recorded in human history (see Scott, 1998).

The very different meanings conveyed by the phrase 'regulator' suggest that if we want to get an accurate image of what it means in reality, and in particular what it means for the market system, we should not start with theoretical accounts based on images of regulation; we should instead look at some real live states. That is the approach I take here. The most important example of a practising regulatory state, as we have noted, is the US. The very idea of modern market regulation is an American invention; and most of the important institutional innovations, and problems, in business regulation, are American in origin. We shall see that the history of the regulatory state took a fresh turn in Western Europe from the 1980s onwards, both at the level of the European Union (EU) and at the level of some individual member states. That fresh turn is indeed commonly pictured in the language of regulation as pilotage; examining this account is the purpose of the section that follows my account of the US.

2. The American regulatory state: adversarialism, cooperation and capture

The relationship between the American regulatory state and the business enterprise is strikingly distinctive, viewed comparatively.

The simplest, but perhaps the most important, indicator of distinction, is that this is a relationship with deep historical roots. The pre-industrial American economy was one where the state was closely involved directly in the conduct of economic life, for instance in the chartering of corporations. But the relationship with business took a special turn in the closing decades of the 19th century. That special turn was a reaction to a great economic revolution which spanned the generation following the end of the Civil War. This era saw the development for the first time of a significant plutocratic class, immortalised in the idea of the 'robber barons' who emerged in the second half of the 19th century to dominate parts of the newly developing economy: for instance Carnegie in steel, Rockefeller in oil, Vanderbilt in rail (Josephson, 1962). The wealth of this class was fabulous by American historical standards, and the economic and political power that it was able to exercise was correspondingly great: 'During the 1840s there were not twenty millionaires in the entire country; by 1910 there were probably more than twenty millionaires in the United States Senate.' (Hofstadter, 1955–1972: 136).

The change was succeeded, in the last quarter of the 19th century, by an even more profound institutional development: the appearance of a

new form of economic organisation – new to American society, but also to the rest of the capitalist world. It consisted of giant corporations which captured markets in whole sectors, and which increasingly developed their own distinctive forms of internal organisation (Lamoreaux, 1985). They were a world away from that of the small farmer or storeowner who was the mythical centre of the traditional American economy. These corporations were soon to pioneer new forms of internal divisional organisation, which gave professional managers, rather than entrepreneurs, a central role (Chandler 1977: 6–12). They were, in Chandler's arresting phrase, a 'visible hand', which displaced much of the 'invisible' hand of the market. The rise of these new giants was also associated with the emergence of new centres of financial power, publicly often demonised as the 'Money Trust' allegedly organised on Wall Street (Carosso, 1973).

These great changes had political origins, and they had political consequences. The rise of the new giant corporations was not the result of some process of natural economic evolution; it reflected the exploitation of the political environment by creative entrepreneurs (Roy, 1997: 10–20). They turned the American state in a distinctive direction and may be said to have been the unintended progenitors of the American regulatory state – unintended because it was in response to the rise of the great new centres of business power that the clamour for regulation originated. The period was one of extraordinary social and economic change – and of corresponding stress, notably for the 'old' economy and society of rural America, as it felt the impact of the new economic power and the new economic challenges. The most important political manifestation of this was Populism, a great movement of agrarian radicalism that reached its height in the 1890s. It arose out of the stresses and problems imposed on small business rural America by the momentous changes of the second half of the century, and was a reaction against the figures and institutions that seemed to be behind, and to benefit from, those changes: the new plutocracy represented in the public mind by the 'Robber Barons'; the giant corporations that seemed to be able to control, rather than be controlled by, markets; the new centres of finance, and their perceived ability to control the terms on which small entrepreneurs could get credit. The ensuing crisis of legitimacy for big business was expressed in the view that, in place of small enterprises with a human face and spirit, there had been created corporations without a 'soul' (Marchand, 1998).

The single most important result of this hostility

was the passage of the Sherman Act in 1890. This law was prompted by the furious debates over the alleged power of the trusts. It is agreed by scholars that the Act was aimed at the capacity of the new corporations to manipulate market competition, but critical interpretations have subsequently stressed the limited impact of the Act and its symbolic rather than substantive role. Critics of its effectiveness point to the extent to which the original proposals were shorn of sanctions during passage through Congress, and the extent to which later court interpretations created a jurisprudence which minimised the impact of the law on corporate combinations (Bowman, 1996: 63–69). The Act nevertheless has claims to be the founding measure for a federal regulatory state aimed at controlling corporate power. But it did not develop in isolation. It is a touchstone because it accompanied other events in the birth of the American regulatory state. To this period, thus, also belongs the creation of the Interstate Commerce Commission (1887–1995) from which we can date one of the characteristic forms of business regulation for the next century – rate and service regulation, which extended over time into industries created by new technologies, like airlines and telephones (Stone, 1991). Likewise, the passage of the *Food and Drugs Act* 1906 inaugurated a key, and enduring, history of federal regulation of both the food and pharmaceutical industries, leading to the establishment of a major regulatory agency, the Food and Drug Administration (Hilts, 2003).

These are important episodes because they resonate through the political history of the regulation of business in America. Movements critical of the exercise of American business power have deep historical roots. There exists a strong and long established tradition of highly adversarial criticism of business institutions. This tradition exists in spite of, or perhaps even because of, the absence of the kind of root and branch opposition to capitalism represented by socialist movements in Europe, and in spite of the weakness of any American tradition of direct ownership of productive resources by the state.

The Great Crash of 1929 and the ensuing Great Depression reignited this tradition of suspicion of big business, and especially of big business identified with the 'money trusts' of Wall Street. This was an era of financial catastrophe, revelations of fraud, the collapse of production, and mass unemployment. Out of this came the 'New Deal', shorthand for a series of social and economic reforms introduced under the Presidency of Roosevelt. The 'New Deal' is a powerful symbol

for a new relationship between government, business and society, and a key development in the American regulatory state – but the meaning of that symbol, we shall see, continues to be contested.

The New Deal built on the foundations of populism to create some of the key institutions of a regulatory state, and thus of a distinctively American way of ordering the relations between government and business. The heart of this new regulatory state was a series of Federal regulatory agencies. The most important of these were concentrated on financial markets and institutions: for instance, the Securities and Exchange Commission regulated stock markets; the Federal Deposit Insurance Corporation safeguarded small deposits in banks and, as a corollary, regulated the prudential conduct of those banks (Moran 1984, 1991).

The New Deal also established a highly distinctive mode of regulation that has ever since deeply shaped the relations between business, the state and the wider political system. The most important feature of this mode is the dominance of the law and of legal argument. Formed by statute, in a culture where law was already central to the regulation of social relationships, the regulatory process soon became heavily shaped by the courts and by legal argument. Lawyers emerged as the key figures in negotiating the relationship between the new regulatory state and American business, both in the regulated enterprises and in the regulatory institutions. The law schools of the universities became important providers of skilled professionals for this new regulatory state (McCraw, 1984: 243–244). We will later see one key consequence: the importation into the regulation of business of a distinctive feature of American legal culture – its reliance on adversarial argument between opposing parties as a means of determining outcomes.

The creation of new regulatory bodies and new, legally informed ways of thinking about business policy can be thought of as involving the imposition of constraints on business institutions – a common perception among critics of the New Deal in the business community. But this was not the whole story. Another feature of the regulatory state that the New Deal created reminds us that business institutions in the US, whatever popular hostility they aroused, still entered the New Deal with formidable power resources. The most important resource was ideological: attachment to the market order still dominated the minds of most Americans (Galambos, 1975). The aim of the New Deal was to stabilise, not replace, the business order (Foley, 2007: 279). The institutional structure, and the actual practices of the new regulatory bodies,

ensured that there was a great deal of cooperative regulation with business, market actors being encouraged to take responsibility for running their own regulatory affairs. A good example of the style of the new regulatory state is provided by the single most important agency established by the New Deal, the Securities and Exchange Commission. The Commission was designed to regulate the institution – stock exchanges – that had been at the heart of the scandalous collapses in 1929. But from the start the leadership of the Commission was drawn from the very markets where scandal had originated: its first chairman, Joseph Kennedy, founded the fortune of the Kennedy political dynasty by financial speculation in the 1920s. More important still, the Commission worked through a kind of ‘franchising’ system: it delegated responsibility for regulation to the stock exchanges themselves, mostly restricting itself to authorising and supervising these self-regulatory bodies (Seligman, 1982: 103–123).

In short, there is a contradictory history to the American regulatory state: a contradiction between a cooperative regulatory mode and a culture of adversarial suspicion. We can see the two at work in the great turn taken by regulation from the 1960s. This was the era when the interest of the regulatory state expanded to what is generally called the new ‘social’ regulation: control of the environmental consequences of firm activity; control of health and safety in the workplace; control over (discriminatory) hiring and employment practices.

The new age of social regulation prompted an intensification of a key trait in the American system of business regulation: a further marked turn to the law, and indeed to a particularly adversarial form of law (Stewart, 1988). Analysts like Vogel have established that, viewed comparatively, American regulation has long been more legalistic and punitive than regulation in most other large capitalist economies (Vogel, 1978, 1986, 1989, 1996). But the advent of the new social regulation heightened these features. It strengthened a culture of what Kagan (2001 and 2007) calls ‘adversarial legalism’, the key features of which were a willingness to impose (often draconian) penalties on enterprises for breaches of regulations, and a readiness both on the part of the regulated and the regulators to resort to adversarial confrontation in courts to settle disputes. This readiness in turn reflects a wider culture of litigation, and the fact that, increasingly, institutions and groups not directly party to the regulatory process have shown a readiness to try to intervene by invoking law.

The contradictory inheritance continues to shape the politics of the relationship between business and the American regulatory state. The corporation is confronted by a two-headed beast: one with a smiling face, the other snarling at business. In recent decades – since the Reagan revolution of the 1980s – these contradictory aspects of the state have struggled for supremacy.

Business influence over regulation has been strengthened by a number of developments, notably by a paradigm shift within the intellectual world of the regulators themselves, and by a shift in the priorities of politicians. There has occurred a change in the balance of analytical skills represented in the agencies, and a change in perceptions of the character of the regulatory task. As we saw earlier, the great age of the institutionalisation of the regulatory state was also the age of legal dominance over the regulatory process. But since the 1980s lawyers have been joined, and to some degree supplanted, by economists, and this has coincided with a shift in the way regulatory intervention is defended: justification is increasingly done in the language of micro-economic impact analysis (Eisner et al., 2006: 59–60). A pioneer in this change was the great economist (and deregulator of airlines) Alfred Kahn, who liked to quip that for him aeroplanes were just ‘marginal costs with wings’ (McCraw, 1984: 224).

This intellectual change has accompanied a growing lack of confidence in ‘command and control regulation’: that system which relies on the enforcement of regulation by issuing commands down a legally backed hierarchy. The rise of economists and economics helped legitimise the deregulation movement, which produced liberalising reforms in industries, like telecommunications, airlines and financial services. It also encouraged experiments with ‘soft’ regulation: these include the attempt to use market style mechanisms (such as licensing systems allowing the purchase of ‘pollution permits’ in environmental regulation). There developed a conviction that some areas of regulation were so technically complex that ‘command and control’ was too blunt an instrument, thus prompting experiments in the delegation of regulatory authority to affected industries and enterprises, subject only to the achievement of broadly prescribed standards (Eisner et al., 2006; Eisner, 2007).

These paradigm shifts can call on that tradition in the American regulatory state which approved of close business involvement in self-policing. But they were reinforced by the wider ideological shifts of recent decades. Although these date mostly from

the ‘Reagan revolution’, some of their origins lie in the 1970s: the landmark deregulation of airlines, and of financial services, for instance, was well under way by the time that decade ended. But the Reagan Presidency nevertheless marked a distinct change in the climate created by partisan politicians (Eisner et al., 2006). Every President since Reagan has, at some period of office, announced a temporary standstill on the making of regulations, usually expressed in the language of relieving the ‘burden’ of regulation on business. And even the one President who publicly presented himself partly as an opponent of the Reaganite tradition – Clinton – also publicly endorsed Osborne and Gaebler’s theory of a shift towards a ‘steering’ government; indeed it is the appropriation of Osborne and Gaebler’s language of ‘reinventing government’ by the Clinton Administration which made their work so well known and so influential. Every President since the start of the 1980s has talked the language of the ‘burden’ of regulation on business, of deregulation, and of ‘soft’ regulatory initiatives.

This is the aspect of the American regulatory state which has looked with a benign gaze on business in recent decades. But the other, snarling, face has also been in evidence. There is still life in the adversarial tradition, a tradition that is in part the product of the old populist suspicion of big business, and in part the product of the adversarial legal culture. Studies of American public opinion show a deep-rooted suspicion of big business, alongside an equally deep-rooted tendency to mythologise the virtues of small business (Vogel, 1996; Dennis, 2004). And for all the experiments with ‘soft’ law, the revolution in regulation signalled by the advent of the new social regulation in the 1960s produced an irreversible juridification of the regulatory process, which has permanently exposed business to adversarial, punitive enforcement. Kagan and Axelrad’s comparative study of regulatory enforcement paints a consistent picture of American distinctiveness: of a greater willingness to confront and to punish the corporation in the US by comparison with experience in other leading capitalist democracies (Kagan and Axelrad, 2000).

This exposure to the peculiarities of American legalism has taken a form which has been hugely damaging to the business enterprise. American liability law is distinctive in its expansive interpretation of liability for damages, and the result has been to expose enterprises to highly expensive lawsuits: the targets have been as diverse as asbestos and tobacco (Sicilia, 2004). In a legal culture, which is not only adversarial but also fiercely competitive, the potential rewards of suc-

cessful cases have also stimulated the development of a highly aggressive branch of the legal services industry. Lawyers have invested some of their gains in one area (for instance asbestos) to fund cases in others (for instance tobacco). They have also used their wealth to fund, and try to influence, the competitive electoral system in order to defend the jurisprudential assumptions which support this thriving industry (Derthick, 2005).

The continuing reality of adversarial implementation, combined with a vigorous, threatening industry staffed by liability lawyers shows that, whatever the rhetoric of democratic politicians or academic theorists, the practical implementation of regulation is often anything but business friendly in the American regulatory state. One important reason the actual record of successive Presidents does not match their deregulatory rhetoric is that there are powerful wider social forces driving continual regulatory intervention in the affairs of the enterprise. The most immediate manifestation is the way scandal functions as a driver of regulatory change. One of the most striking examples will be very familiar to accounting researchers and practitioners: the experience of financial regulation, notably of accounting and audit, in recent years. In the Sarbanes-Oxley Act of 2002 Congress transformed what had been a settled domain of self-regulation dominated by the industry into virtually a paradigm of traditional, adversarial command and control regulation. The moving force behind this was a series of financial scandals and collapses, of which the best known was the Enron Corporation. But 'best known' is the appropriate phrase here. Business operates under the scrutiny of a highly competitive (and therefore aggressive) media system, which is constantly searching for scandals to discover and expose (Berry, 1999: 120–130); and under a highly competitive political system in which legislators are constantly searching for scandalous regulatory failures to remedy. In other words, there are important features inscribed in the very character of the American regulatory state which are pushing it in the direction of deeper and wider controls over business, even as politicians and regulators talk the language of deregulation and light touch control.

The briefest characterisation that we can offer of the American regulatory state is also the most obvious. It is *American*: that is, it can only be understood as a manifestation of very special American historical development, institutional innovation and cultural patterning. Is the same true of our second great example?

3. The European regulatory state: coping with economic crisis and democratic politics

I have given time and space to the US in part because the experience of business with the American regulatory state provides a kind of informal 'benchmark' against which we can try to understand the European regulatory state – a formation that has its origins in the political economy of the 1970s. By that time, as we have seen, the American regulatory state had a number of well-established features. It had developed out of a long series of crises dating back over a century. It was marked by the linked traits inscribed in American political culture and American legal culture: that is, it was enmeshed in the institutions of democratic politics and it was commonly characterised in its enforcement practices by adversarial legalism. It thus presented two faces to business: a benign face which represented deregulation, liberalisation, an emphasis on consultation with business, and light touch implementation; and a hostile face which represented the long history of suspicion of big business and a determination to settle economic disputes by adversarial challenge in the courts.

The most influential account of the rise of the regulatory state in Europe, that offered by Majone (1991, 1996 and 1999), begins by invoking some of these American parallels, but we can see immediately that the American example is ambiguous: it leaves unsettled the question of whether a regulatory state is business friendly or business hostile. The most obvious sense in which Majone's model is American is that it is consciously Madisonian. That is, it draws on the tradition of constitutional argument in the US which derives from the contribution of James Madison, one of the key figures in the debates that surrounded institution building in the early American Republic – and who argued for institutional designs that would insulate government from popular pressures. It suggests that the regulatory state is a necessary response to the complexities of economic government in capitalist democracy, and thus a necessary alternative to majoritarian models of democratic decision-making. As an alternative it offers insulation from majoritarian democracy – hence the Madisonian inspiration. Since the regulatory state is pictured as a functional response to high complexity in economic government, an obvious question is: why did it only develop in Europe after the 1970s? Complexity of this kind under capitalist democracy is, after all, hardly something new. Two novel conditions in the 1970s help explain the change. Both created a problem in relations between the EU

and the business system. The first sprang from the limits to state building in the new system of economic government being constructed in the European Economic Community (now the EU). On Majone's account the central governing institutions of this new system of economic government – notably its key executive agency, the European Commission – have been forced to depart from the command modes of control so common in the member states because of the character of the new 'state': in particular, it lacks the fiscal resources and – partly as a result – the resources in skilled personnel directly to exercise control. It has thus been forced to appropriate the doctrine of subsidiarity, under which responsibility is delegated to lower levels and, in part as a result, the policies which are implemented have to be worked out in consultation with the affected parties. As far as business is concerned, this means that it can expect to be closely involved in policy formulation, and to have a big say over policy implementation. The future in such a state seems to lie with business self-regulation. This expectation is reinforced by the second condition identified by Majone as a prompter of the rise of the regulatory state: the problems of the Keynesian economic order following the end of the 'long boom' in the advanced capitalist nations in the early 1970s. The exhaustion of Keynesianism also signalled the exhaustion of an age of direct, large-scale state intervention in economic life, and a turn to regulation in the 'steering' sense identified at the beginning of this paper.

These twin conditions – the turn to indirect modes of government via the doctrine of subsidiarity and the turn away from Keynesianism – combine to produce an (embryonic) European regulatory state: a mode of economic government which is 'regulatory' in the twin sense that it relies on the promulgation of rules which are implemented elsewhere, and in the sense that it conceives the tasks of economic government as balancing and steering rather than direct control. Out of these twin forces come a European regulatory state that practises economic government by establishing broad rules (like Directives) in consultation with affected interests; these interests are then heavily involved in shaping the transposition of those rules into practical measures within individual national economies, individual sectors and even individual enterprises.

It will be clear that this is a 'business friendly' system of economic government, at least in intent. And it has another intended feature, which is designed to make it more business friendly still. We

recall that the institutions and arenas of regulation in the US were heavily 'politicised': that is, infused with the influences of democratic accountability and partisan political argument. Because they are faced with a powerful Congress intent on oversight, agencies are constantly exposed to the influences of majoritarian democracy. The regulatory state movement in Europe, both at the level of the EU and, as we shall see, at the level of important member states, has been driven by a very different force: the desire to 'depoliticise' – which is to say, to take out of the partisan democratic arena issues formerly subject to democratic argument and to replace them with agencies that are insulated from the pressures of majoritarian democracy. The most important sign of this is the development documented by Coen and by Thatcher: the spread of 'non-majoritarian' regulatory agencies across the EU, both in its most important member states and at the level of the EU itself (Coen and Thatcher, 2008; Thatcher 2002a, 2002b, 2005, 2007). As far as the EU is concerned, the most important creation is the European Central Bank (ECB), an agency with an increasingly elaborate and wide mandate which controls a decision – determination of short-term interest rates – formerly widely dispersed, and commonly controlled by democratically elected politicians. What is more, it is an agency whose mandate has been shaped by pro-business ideologies, notably the object of controlling inflation and advancing 'sound money' doctrines. This development exactly fits the pattern of what Majone calls Madisonian democracy – an emphasis on the technocratic settlement of policy problems through a process of adjustment between the affected interests.

Viewed in these terms, the European regulatory state looks a much more unambiguously business friendly political formation than does its American counterpart. What is more a number of contingent features support this picture. In its search for partners in regulation the Commission has a well-documented history of seeking to involve business interests, notably the largest enterprises (Coen, 1998 and 2007). In addition, the lobbying worlds which surround the making of regulatory policy at EU level are populated by a well-organised industry where some of the best-resourced actors are business institutions. Moreover, when we look at the European regulatory state in American terms one key feature is missing: with the exception of the ECB, it is hard to identify European regulatory agencies with anything like the clout, resources or status that characterise the institutional giants of American federal regulation. The complex systems of 'double delegation' (Coen and Thatcher, 2008)

practised in the EU mean that even when agencies are created they are typically mired in complexities of multi-level governance. An instance is provided by the example of the European Chemicals Agency, created in 2007 to register and evaluate chemicals across the EU – a vital matter (European Chemicals Agency, 2008). Most of the detailed work of the Agency is actually delegated to individual member states, while key parts of the industry – such as the production of pesticides – are regulated under an entirely different regime. In short, the institution which has given the American regulatory state ‘bite’ in its dealing with business, the public regulatory agency, is a much more enfeebled animal in the European case. Moreover, Coen and Thatcher’s study (2008) of the creation of EU-wide networks of regulators – a second best solution to the problem of developing some EU-wide regulatory capacity – suggests that these networks are of very limited use; they are certainly no substitute for the institutional giants of American regulation.

But this summary judgment that the European regulatory state is business friendly is complicated by two developments, one at the level of the EU itself, and one in an important member state.

As far as the EU is concerned, whatever the rhetoric, it is not plain that the practice of EU shaped regulation is indeed light touch. Much depends on the perspective of the affected interest. The diversity and complexity of business interests across the EU – divided by sector, by size and by national regulatory traditions – means that the impact of regulatory intervention will be felt very differently by different groups. From the point of view of business regulatory systems that were historically weighted towards voluntary self-regulation, such as those of the UK or Ireland, many regulatory interventions – in areas as disparate as the regulation of product packaging and labelling, and the regulation of workplace safety – have been experienced as the creation of quite prescriptive systems of rules. More important still, the impact of the single most important regulatory agency created by the EU, the ECB, has had complex and highly varying effects on business interests in different sectors. This is hardly a surprise because the Bank is trying to operate a single interest rate rule across a hugely diverse set of capitalist economies: consider the impact of a single interest rate regime on business communities as diverse in their market position, form of organisation and cultural understandings as those of Germany, Spain and the Republic of Ireland. Only by construing business ‘interests’ at an almost metaphysical level of abstraction could the operations of the EU’s interest rate regime be

identified as unambiguously ‘business friendly’. The developing institutional capacity and ambitions of the ECB are also changing its relations with business interests. The Bank has rapidly developed as an institution with its own highly distinctive organisational culture: it is a major promoter and shaper of banking systems, notably in the new accession states of the EU, and is also a rapidly developing centre of expertise about both monetary policy and banking supervision and regulation (Moran and Macartney, 2009). In short, it is in many instances superordinate, rather than subordinate, in its dealings with key banking interests; indeed, in respect of the rebuilt private enterprise banking systems of the former Communist autocracies it has been critical in the very construction of business interests (Johnson, 2006).

This tendency for regulatory agencies to develop distinctive institutional cultures and powerful resources of expertise and information, independent of regulated interests, and often capable of imposing their will on those interests, is a well documented feature of the American regulatory state. It is connected to another feature also well documented in regulatory systems: the importance of struggles for ‘turf’ and influence in the systems of bureaucratic politics that are the natural by-product of the regulatory state. The process is well illustrated by the case of competition regulation in the EU, a critical part of the EU’s area of competency in economic government. Wilks has called DG IV (the name of the competent DG at the time) the most powerful agency for the regulation of competition on earth (Wilks, 1999; and see also Wilks 2005; Wilks and McGowan 1996; Wilks and Bartle 2002). Under a succession of Commissioners it has also turned into one of the most abrasive, quite matching American regulators in its enforcement style. It has been involved in a series of high profile confrontations with large firms, both European and American; it has, in American fashion, used its powers to raid the offices of firms (in the search for evidence of collusion); and it has used its power to impose huge fines on large American and European multinationals, perhaps the most notable example being provided by its protracted battle with Microsoft.

The second major complication produced by the ‘business friendly’ image of the European regulatory state is provided by the case of one member state, the UK. The UK is critical to understanding the European regulatory state in part because Britain is a major national economy, and the most important financial centre in the EU. But it also has a more analytical importance, because in the UK we have seen, in recent decades, the most ambitious

attempt by any leading capitalist democracy to construct a new regulatory order. The relationship of business to this new regulatory order is puzzling and ambiguous. The puzzle may be stated as follows. On the one hand, the British regulatory state exactly follows the kind of path we might have expected had we followed Majone's reasoning. After the end of the long boom in the 1970s the British economy, and the British system of economic government, entered a protracted crisis – in many ways the most serious crisis of any advanced capitalist economy. That was succeeded in the 1980s, under the premiership of Margaret Thatcher, by the implementation of some of the most radical reforms in the advanced capitalist world. The state attempted to withdraw from the direct control of large areas of economic life. The big symbols of that were the partial disavowal of Keynesian theories of active management of the macro economy, and the programme of privatisation of publicly owned enterprises – the most ambitious programme of privatisation in any large capitalist economy. The state also attempted to remove many restrictive practices in the economy. The most important examples were in labour markets and in financial markets – the latter symbolised by the 'Big Bang' on the London Stock Exchange, which dismantled barriers to market entry and to price competition. The state also moved in the direction of relying heavily on reformed, or newly created, regulatory agencies to manage economic life. These agencies were constructed so as to ensure that areas of economic life that had hitherto been heavily politicised (that is, under the influence of democratic, partisan politics) were now to be run in a 'depoliticised' fashion. The two most striking examples of this were: the gradual depoliticisation of monetary policy, culminating in 1997 in the transfer of responsibility for setting short-term interest rates to an independent Monetary Policy Committee of the Bank of England; and the creation of a network of regulatory agencies to manage the newly privatised industries. This latter innovation – the creation of free-standing regulatory agencies – was soon extended to other parts of business regulation, either by the reform and integration of existing bodies (the experience of environmental policy) or by the creation of new free-standing institutions (the experience in broadcasting).

But if business believed that in the process it was getting a more compliant state, the experience of the two decades or so of the British regulatory state will have disabused it of that illusion. The turn to regulation in practice created new and formidable instruments of state control. There are four main

reasons for this unpleasant outcome – unpleasant at least as far as business is concerned.

The first is that in key areas of economic life, of which the financial markets are the most important, the new agencies of regulation replaced systems of self-regulation that had been under the control of the actors in the marketplace. What is more, by replacing an informal, and often secretive, system by openly organised and explicitly empowered public bodies, the reforms forced into the public domain issues that could once be settled tacitly. The shift to statutory-based regulation also made the system look much more 'American' in one other key respect: it made the courts and the law important in the implementation of regulation.

Second, whatever the ambitions of the creators, it has proved impossible to 'depoliticise' the new systems of regulation. The history of the regulation of privatised industries is a particularly instructive example. The original theorists of regulation thought of it as a transitional arrangement, which would be succeeded by a 'withering away of regulation' as market forces asserted themselves. In truth, regulation of privatisation has become more complex, more detailed and more entrenched. What is more, a whole set of public policy issues – to do with the appropriate levels of enterprise profit, and executive reward – have proved impossible to keep from the democratic public arena (for details, Moran, 2007: 95–123). The great crisis of 2007–2008 only intensified this process of politicisation.

Third, this process of politicising regulation has proved impossible to contain; it has spilled over into hitherto 'depoliticised' domains in an often uncontrollable fashion. In whole areas of company law and company regulation recent decades have been an age of turmoil, of constant changes of rules and of the intervention of democratic politicians into arenas like corporate governance. Of course, business has fought back, and often fought back successfully; the fabulous enrichment of the corporate elite in recent decades shows that the most powerful have often been able to resist the complaints of democratic politics. But they have had to do precisely that: argue and resist, in fields that were once the domain of uncontested, silent acquiescence.

Fourth, and finally, the relationship between many of the new agencies and business has proved anything but easy, for at least some of the agencies have been far from business compliant. This is most evident in the field of the regulation of competition, maybe the single most important domain of regulation, especially for the large enterprise. The history of the regulation of competition for about

50 years after the Second World War was dominated by the Monopolies and Mergers Commission, which, as Wilks' (1999) history shows, was essentially a business-friendly institution that expected to regulate in a cooperative fashion, especially in cooperation with the biggest firms. The successor institutions operate under very different mandates and with very different institutional cultures. They have been involved in a number of high profile clashes with individual enterprises, often working in concert with Brussels regulators; these clashes show that the largest enterprises now have to operate in a very different way from the cooperative world of the old Monopolies and Mergers Commission.

The regulatory state in Europe does not quite match the extremes of smiling and snarling that we saw in the case of its American relative; nevertheless, as far as business is concerned it is a complex and moody animal to deal with.

4. Regulation, accounting and national regulatory cultures

My argument in this paper is simplicity itself: regulation of any domain of economic life is a political affair. And since it is a political affair at its heart lies a set of relationships between business interests and the state. Disentangling those relationships – making sense of that grand phrase 'the political economy of regulation' – involves close attention to territorial patterns of regulation, since states inhabit a world of territory. Making sense of the political economy of regulation involves making sense of national patterns of regulation. And it is here that the implications for practice and research in accounting begin to become clear. The formal language of accounting in principle offers a politically neutral set of social technologies for the practice of regulation in key areas of business life in the market economy. But what I have sought to show here is that the application of these social technologies is inevitably a political matter, and is therefore shaped by the political setting – institutional and cultural – in which it operates. Accounting practice is a critical arena where politics and economics meet – and is therefore critical to the political economy of the market system.

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Discussion of ‘The political economy of regulation: does it have any lessons for accounting research?’

Sir Bryan Carsberg*

It is a pleasure to be able to be the commentator on Michael Moran's interesting paper. He is a Professor of Government in the University of Manchester where I was once a Professor of Accounting, so I feel a kind of institutional allegiance, although I was rather shocked in thinking about it on the way here to realise that I left Manchester no less than 30 years ago. It is also interesting, I think, for an accountant to be challenged by thinking from another discipline, of which one perhaps has less knowledge immediately. I certainly have much less knowledge.

The interesting question arising from this paper is to think what the lessons are for the design of the institutions that we use and which are used to regulate accounting, to set accounting standards. Moran's overall conclusion, that regulation is a political affair, seems incontrovertible, and he conjures to mind an interesting picture of a kind of political market in which the currencies are partly financial but also partly other things such as political power. The players are the government, media, business, the consumer, consumer bodies and others, and one wonders whether any of the participants can truly be said to be seeking the public good as a direct objective.

There was an interesting subtext also about the business-friendliness of regulation. I shall comment a little in a minute about the probability that different kinds of institutions will be business-friendly, but I think I should say right away that to seek business-friendliness as an absolute goal for regulatory activity seems to me to be mistaken, just as one would not wish to see a total lack of friendliness. I suppose what one would hope to see as an outcome is some kind of arrangement that maximises the value of benefits over costs from a

public point of view – not a very easy thing to measure, but something that suggests that probably some element of business-friendliness is desirable but not total business-friendliness.

There are, pursuing that train, several ways in which regulation can be organised. It can be carried out directly by ministerial government departments; it can be carried out by independent regulatory bodies, public bodies established by Act of Parliament with duties set by statute, and that was the position in the two regulatory bodies with which I was involved – Oftel, the first telecoms regulator, and the Office of Fair Trading. It can be left to private bodies including bodies administered by the professions. It can be left to the market but, thinking about what Michael has said and what one observes and in spite of the fact that I know there is a strong school of academic thought which believes it would be best to leave these things to the market, it seems impracticable that we should find it so. All the evidence is that leaving it to the market is not a sustainable solution because sooner or later the forces that impel politicians to act will come into play in the field of accounting, and so, whatever one may think – I have never been attracted by the argument that it should be left to the market – but whatever one thinks, it is probably a futile quest anyway.

I cannot of course avoid a little commentary on my own experience with regulation, particularly at Oftel, which, as Michael commented in his paper, turned out to be less business-friendly than perhaps people had been expecting. That was an interesting experience. I can offer you two reminiscences about that. I had responsibility at Oftel for setting British Telecom's price control. Government ministers had no power in that. Nevertheless, when I set about establishing the first price control, British Telecom's executives went to government ministers after they had received an opening broadside from me and said, ‘You must call this madman Carsberg off otherwise it will be the end of Western

*The author is a former Director General of Telecommunications (head of Oftel), Director General of Fair Trading, and Secretary General of the International Accounting Standards Committee (predecessor of the IASB).

E-mail: bcarsberg@rm.com

civilisation as we know it' – the speech to which regulators become accustomed. Ministers did absolutely nothing. They said: 'You must go and talk to Carlsberg yourself.' They sent me no messages about the meeting; in fact they did not even tell me it had taken place. I found out it had taken place by indirect means.

Then later on, when we had the benchmarking duopoly review to decide whether or not to open the basic telecoms market to wider competition than hitherto, the position changed and I did find myself under considerable government pressure. I embarked on a line that was unwelcome to government ministers at the time and they tried to dissuade me from it. I stood my ground and in the end it is fair to say – in brief summary – government ministers came around to at least accepting the track I was in.

Those experiences made me feel that there is a good deal of chance about the way these things actually turn out. I doubt very much whether one can say with any confidence whether a particular institutional arrangement is likely in general to lead to a particular outcome in terms of business-friendliness, political interference or whatever; it all depends so much on the individuals involved. One can say, I think, that a regulatory market place, if I can use that term, in which different institutions are involved at least creates a balance of forces, which may be desirable in terms of the ultimate outcome.

It is interesting to spend a minute or two on some of the *causes célèbres* in our own field of accounting on this territory. I look particularly at experience in the US where, as you all know, the law gives the Securities and Exchange Commission (SEC) the power to set accounting standards, but in practice most of the time it is left to what is now the Financial Accounting Standards Board (FASB), with occasional elements of SEC interference.

There are four major cases that came to my mind in which there was significant interference in that process. The earliest was perhaps in the last in, first out (LIFO) inventory flow assumption where the government ensured that the private sector standard-setters would not prohibit the use of LIFO.

There was the saga of oil and gas accounting where the FASB was engaged in a debate between the full cost or successful efforts accounting, and the SEC intervened in the interests of what became reserve recognition accounting, which surely provided some useful extra information.

There was the business of inflation accounting, in which I played a hand personally: I was working for FASB at the time. We were under a kind of diktat

from the SEC to produce something on inflation accounting, with a strong hint that they would intervene and do something different if it was not a current cost/replacement cost-based system.

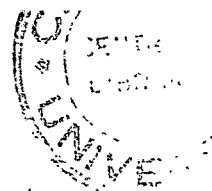
More recently there was the share-based payments fiasco where the FASB was forced to back down from what seemed a perfectly sensible and indeed highly desirable proposed accounting standard.

Some of these examples, it seems to me, are rather good, in the sense that government intervention produced an improvement. However good the reserve recognition proposals were in oil and gas, they perhaps provided some extra useful information to the market. I thought the same of inflation accounting, although we did not have that in place for long enough to find out how useful it was in practice. I thought that government intervention on LIFO and share-based payments was reprehensible and regrettable in every way one can think of. There are some good examples there and some bad examples.

More recently we have had the experience in Europe and the US of the saga of the use of fair value for financial instruments, the early stages of which again involved me when I was at IASC, as it then was, and which has continued subsequently. There again, I think one has seen perhaps rather regrettable outcomes, and outcomes certainly motivated by some European governments' wish to see a solution that was consistent with their political goals rather than something which was actually in the public interest.

Thinking about all those things it is particularly interesting to see what role the conceptual framework in accounting has. I see there is a session on that subject later in this conference. I suppose one can see a conceptual framework among other things as a device that can be used by standard-setters to strengthen their hand in political negotiations, although it is perhaps not wholly successful.

With that fairly brief canter through, I would say again as my conclusion, first, I do not think there is any set of institutional arrangements of which you can say 'This is sure to produce certain kinds of result' and therefore you cannot easily say what is the most desirable set of institutions. There is a large chance element about it. But given my scepticism about governmental motivations, shall I say, and the pleasure I get from seeing David Tweedie doing battle on fair value questions in financial instruments, I think we are much better for having independent bodies around to introduce a bit of a battle and the tension of debate into these matters.



Different approaches to corporate reporting regulation: how jurisdictions differ and why

Christian Leuz*

Abstract — This paper discusses differences in countries' approaches to reporting regulation and explores the reasons why they exist in the first place as well as why they are likely to persist. I first delineate various regulatory choices and discuss the trade-offs associated with these choices. I also provide a framework that can explain differences in corporate reporting regulation. Next, I present descriptive and stylised evidence on regulatory and institutional differences across countries. There are robust institutional clusters around the world. I discuss that these clusters are likely to persist given the complementarities among countries' institutions. An important implication of this finding is that reporting practices are unlikely to converge globally, despite efforts to harmonise reporting standards. Convergence of reporting practices is also unlikely due to persistent enforcement differences around the world. Given an ostensibly strong demand for convergence in reporting practices for globally operating firms, I propose a different way forward that does not require convergence of reporting regulation and enforcement across countries. The idea is to create a 'global player segment', in which member firms play by the same reporting rules and face the same enforcement. Such a segment could be created and administered by a supra-national body like IOSCO.

Keywords: accounting; regulation; IFRS; US GAAP; SEC; standard-setting, mandatory disclosure; political economy

1. Introduction and overview

Corporate reporting regulation has seen substantial changes in recent years. Many of them were in response to corporate reporting scandals and perceived shortcomings during financial crises around the world. Moreover, there has been a concerted effort to converge countries' reporting standards. But despite this effort substantial differences in countries' reporting regulation and practices remain. This paper explores these differences and the reasons why they exist as well as why they are likely to persist in the foreseeable future. My analysis and comparison are conducted at a fairly high level to emphasise that reporting regulation is a part of a country's broader institutional framework. Throughout the paper, I give special emphasis to enforcement issues because of two related reasons.

First, there are still considerable differences in the enforcement systems across countries, which are unlikely to converge in the near or medium-term future. Second, many countries have chosen to adopt International Financial Reporting Standards (IFRS). Given this convergence of reporting standards, enforcement differences are going to play a (relatively) larger and more important role in shaping firms' reporting practices in the future.

This paper proceeds as follows. In Section 2, I delineate different approaches to reporting regulation by discussing various regulatory choices and the trade-offs associated with them. I also provide a framework to explain why countries have different reporting regulations. Section 3 highlights that there are interdependencies between various regulatory choices and more generally that there are complementarities between the elements of countries' institutional infrastructures. That is, in well-functioning economies, institutional elements are chosen to fit each other. As a result of these complementarities, it is difficult, if not impossible, to attribute regulatory differences across countries to any particular set of explanatory factors. However, the broader structure of reporting regulation can nevertheless be understood in the context of countries' institutional infrastructures. This structure is heavily influenced by the role that corporate reporting plays in the economy, which in turn likely reflects the informational and contracting needs of the key parties in that economy.

Section 4 explores differences in countries' reporting, securities and investor protection regula-

*The author is the J. Sondheimer Professor of International Economics, Finance and Accounting at the University of Chicago Booth School of Business, a research associate at the National Bureau of Economic Research, Cambridge, MA, and at the European Corporate Governance Institute, Brussels, and a Fellow of the Wharton Financial Institutions Center, Philadelphia, PA.

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Correspondence should be addressed to: Professor Christian Leuz, The University of Chicago Booth School of Business, 5807 South Woodlawn Avenue, Chicago, IL 60637-1610, USA. E-mail: cleuz@ChicagoBooth.edu.

tions empirically using descriptive cluster analysis. My analysis shows the existence of robust institutional clusters, i.e. countries that share similar institutional features. These clusters are consistent with the existence of institutional complementarities and similar to broad (and more ad hoc) categorisations that have been widely used in the literature to group countries, such as legal origin, cultural and geographical region, and country wealth. Moreover, the analysis shows that countries with a stronger reliance on external finance and arm's length transactions tend to have stronger reporting regulation (both in terms of rules and enforcement) in securities, investor protection and self-dealing laws than countries with a stronger reliance on relationships and insider governance. Consistent with prior work, I also demonstrate that reporting practices in countries with stronger regulation and enforcement tend to be more transparent based on widely used transparency (or opacity) scores.

In Section 5, I discuss the evolution of reporting regimes and hence the question of how differences in reporting regulation and practices will evolve going forward. I explain the implications of institutional complementarities for institutional change and point to the central role of enforcement differences for the global convergence of reporting practices. The main message is that convergence of reporting practices is unlikely in the foreseeable future, unless countries also converge along other institutional dimensions, which is very unlikely for many elements, like countries' legal and enforcement systems.¹ At the same time, there appears to be a strong demand for comparability and convergence of reporting practices for globally operating firms. This demand is one of the key drivers behind the adoption of IFRS in many countries around the world. Recognising this demand, I propose a different way forward that does not require convergence of countries' reporting regulation and enforcement systems. The idea is to create a 'global player segment' (GPS), in which member firms play by the same reporting rules and face the same enforcement. For many firms, the rules and the enforcement are likely to be stricter than what they face in their home countries. Such a segment could be administered by a supra-national institution, for example, the International Organization of Securities Commissions (IOSCO) at the worldwide level, or the Committee of European Securities Regulators (CESR) at the European level. This

approach promises greater convergence of reporting practices for those firms for which there is a strong market demand for comparability than the current approach, which has mainly relied on countries mandating the adoption of IFRS. There is ample evidence suggesting that IFRS adoption alone is unlikely to yield comparable reporting around the world (e.g. Ball et al., 2003; Leuz et al., 2003; Burgstahler et al., 2006; Daske et al., 2008, 2009).

2. Different approaches to reporting regulation: theory and basic choices

There are many different approaches to reporting regulation and regulators face many choices in designing the corporate reporting system. This section discusses several of these regulatory choices and the trade-offs associated with them.² It provides the conceptual underpinnings for this paper and therefore largely abstracts from countries' actual choices. It also provides a brief literature overview on these topics. Generally speaking, the reasons why regulation can be beneficial are fairly well understood in the literature. But we have far less research on the advantages and disadvantages of various forms of regulation and the process of regulation itself. For this reason, my discussion focuses on these aspects.

2.1. Why do we regulate?

The first choice that a regulator faces is the decision whether or not to regulate. As many have pointed out, the mere fact that disclosure of corporate information can have benefits to firms, such as lowering their cost of capital, is not sufficient to justify a mandate because firms have incentives to voluntarily provide information for which the benefits exceed the costs (e.g. Ross, 1979). Moreover, firms could enter into a private contract with investors stipulating the desired disclosures. Prior work has shown that we need some friction in private contracting to justify regulation. For the most part, the rationales are not specific to reporting regulation and have been used in many other regulatory contexts, although there are context-specific versions.³

The literature commonly provides the following four main reasons to justify the regulation of firms'

² This section draws heavily on an earlier survey by Leuz and Wysocki (2008) on the economic consequences of financial reporting and disclosure regulation.

³ Hermalin and Katz (1993) show in a general bargaining context that there are only three reasons for outside interference with private contracting: (i) the parties are asymmetrically informed ex ante; (ii) there is an externality on a third party; and (iii) the state has access to more remedies than private parties. See also Aghion and Hermalin (1990).

¹ Hail et al. (2009) reach a similar conclusion when analysing the economic and policy factors of IFRS adoption in the US.

financial reporting and disclosure activities: the existence of externalities, market-wide cost savings from regulation, insufficient private (or stricter public) sanctions, and dead-weight costs from fraud and agency conflicts that could be mitigated by disclosure. These reasons are related and are sometimes combined. I briefly review these arguments below but refer the reader to Leuz and Wysocki (2008) for a more extensive discussion.⁴

The first argument is that corporate reporting of financial information creates externalities. To the extent that these externalities are positive, they provide a rationale for mandating the socially optimal level of disclosure. However, financial disclosure can also create negative externalities (e.g. Fishman and Hagerty, 1989). Moreover, the (socially) optimal level of disclosure likely is context- and firm-specific, and also depends on the goal of reporting regulation, making it difficult for regulators to mandate the 'right' level of disclosure.

The second argument put forth to justify reporting regulation is that a mandatory regime can produce cost savings for the economy as a whole. For instance, standardisation of corporate reporting can make it easier for users to process the information and to compare across firms. Similarly, a mandatory regime can save costs to firms if it requires those disclosures that almost all firms are willing to provide voluntarily (Ross, 1979). The requirement saves firms the cost of negotiating disclosures with various parties (e.g. shareholders, creditors, etc.) when the result does not vary much across firms and hence the costs of complying with a one-size-fits-all regime are relatively low. In this instance, regulation provides a low-cost standardised solution (e.g. Mahoney, 1995; Rock, 2002).

A third and closely related argument recognises that firms often voluntarily seek commitments to a particular level of transparency, for instance, when raising outside finance. But privately producing a credible commitment to transparency can be very expensive and in some cases even impossible. One reason is that the penalties private contracts can impose are generally limited to monetary sanctions and that the parties face wealth constraints. In this case, the so-called judgment-proof problem arises: the penalty necessary to induce the desired behaviour may exceed the wealth of the contracting parties (Shavell, 1986). Thus, regulation, which

generally comes with a public enforcer and criminal penalties, could be beneficial if it allows firms to commit more credibly.

The fourth argument to justify reporting regulation is perhaps more subtle and less commonly used to justify disclosure regulation (see also Leuz and Wysocki, 2008). It recognises that agency conflicts and the consumption of private benefits by controlling insiders can have social (or dead-weight) costs. It seems plausible that diversion activities to obtain private benefits are costly, in which case there are social losses (e.g. Burkhardt et al., 1998; Shleifer and Wolfenzon, 2002). Perhaps more importantly, controlling insiders are likely to forgo profitable investment opportunities for the sake of private benefits (e.g. Shleifer and Wolfenzon, 2002). This behaviour is not costly to society as long as other firms can exploit the opportunities that are left on the table. But there can be substantial social costs if other firms cannot exploit them and hence these opportunities are lost to the economy as whole. Therefore, competition and the ability of new entrants to raise capital play an important role for the extent to which the consumption of private benefits has social costs (Rajan and Zingales, 2003).⁵ Here, a mandatory disclosure regime can help in two ways. First, it makes it easier for new entrants to commit to transparency so that they can raise the necessary capital to exploit opportunities forgone by the incumbents. Second, it may also make it harder for controlling insiders to consume private benefits and thus mitigate the root cause of the problem.

Clearly, reporting regulation has not only benefits but also costs. Operating a mandatory reporting regime and providing the necessary enforcement can be quite costly. Moreover, regulatory solutions are far from perfect and face many problems (e.g. Stigler, 1971; Peltzman et al., 1989). One problem is that regulators are often not as well informed about the relevant cost-benefit trade-offs as firms. Another problem is that regulation is generally created by political processes, which have many shortcomings and limitations. Thus, a market failure alone is not sufficient to justify regulation. As Coase (1960) points out, competition and private contracting can address market failures as well. A solid case for regulation needs to include arguments as to why a proposed regulatory solution would in practice achieve better outcomes or be cheaper than a market solution. Otherwise, we fall quickly victim

⁴ Further discussions can be found in Ross (1979), Seligman (1983), Coffee (1984), Easterbrook and Fischel (1984), Mahoney (1995), Ferrell (2004), and Hermalin and Weisbach (2007). Hart (2009) discusses a few additional reasons such as bounded rationality or a desire to influence tastes.

⁵ Competition is also likely to limit the extent to which controlling insiders can appropriate resources without threatening the survival of the firm.

to the Nirvana fallacy (Demsetz, 1969). An important and often overlooked issue in this regard is the implementation and enforcement of regulation (see also Shleifer, 2005). The aforementioned benefits of regulation can only materialise if the rules are properly implemented and enforced. As a consequence, enforcement systems play a major role for reporting regulation. I discuss this in more detail below.

Overall, there seems to be a reasonable case for a mandatory reporting regime. Consistent with this view, mandatory reporting regimes are widespread around the world. However, existing reporting regimes are not necessarily optimal. In fact, it is possible that existing regimes 'overshot' in their disclosure requirements. In the end, much depends on the design of the reporting regime, including the enforcement mechanisms. I therefore focus on various design choices in the remainder of this section.

2.2. *Who do we regulate and what is the goal of reporting regulation?*

Another important choice that regulators have to make with respect to reporting regulation is who they should regulate. Much of the reporting regulation in developed countries around the world is geared towards firms, in particular, publicly traded firms. The latter group is typically required to disclose a set of audited financial statements to investors and the general public on a regular basis. In many countries (e.g. all EU member states), this requirement extends to private limited companies.

As much of the relevant information resides within firms, it makes sense for firms to provide certain disclosures. It pre-empts costly private information acquisition and avoids a duplication of efforts by investors, financial analysts and other information intermediaries (e.g. Diamond, 1985). Thus, it is not surprising that reporting regulation in most countries is based on the model that (publicly traded) firms provide disclosures to individual investors. Today, however, investment in publicly traded firms is largely intermediated, meaning that a large fraction of households' stock ownership has migrated to financial intermediaries such as pension funds, mutual funds, and life insurance companies. In the US, institutional ownership rose from less than 10% in the 1930s to more than 70% today. Similar trends, albeit at different rates and levels, can be observed in other countries (e.g. Rydqvist et al., 2009). This trend naturally raises the question of whether individual investors should still be viewed as the primary user of firms' financial reports or at

the centre of the mandatory reporting model (Zingales, 2009). This question in turn leads us to the issue of what the goals of corporate reporting regulation are.

One goal of reporting regulation can be the protection of small and unsophisticated individual investors against better informed insiders and promoters. US securities regulation was introduced in the 1930s with this goal in mind. The basic idea was that extensive disclosure requirements rein in fraudulent activities and level the playing field among investors (e.g. Brandeis, 1914; Loss and Seligman, 2001; Mahoney, 2009). However, with the trend towards financial intermediation, institutional investors dominate financial markets today. There is also an abundance of information sources. Thus, it is not obvious that corporate disclosure regulation should still focus on protecting small and unsophisticated investors (Zingales, 2009). Instead, it might make more sense to design corporate reporting regulation with the needs of sophisticated users such as financial analysts and institutional investors in mind. However, the transformation from individual to institutional ownership has not made the protection of unsophisticated investors redundant or outdated. The problem has merely been shifted to the relationship between small investors and financial intermediaries. Today, this interface deserves more attention and it is possible that we need more extensive disclosures by financial intermediaries about their practices, rather than firms (Zingales, 2009).

Protecting small investors in the securities markets is not the only conceivable goal for reporting regulation. An important goal of reporting regulation in many Continental European countries is to protect creditors (including suppliers) by restricting dividends and other payments from a corporation to residual claimants (e.g. owners, tax authorities).⁶ In these economies, current and retained earnings play a major role in determining how much a corporation can pay out in dividends or has to pay in taxes. In this case, the role of earnings is not to inform investors about a firm's economic performance but to determine a distributable profit and, more generally, to facilitate debt contracting. In fact, even in the UK and the US, the development of accounting practices is very closely linked to the role of accounting in debt contracting and, in particular, in dividend restrictions (e.g. Watts, 1977; Watts and Zimmerman, 1986; Leuz et al., 1998; Kothari et al., 2009).

In many countries, an important goal of financial

⁶ See, e.g. Leuz and Wüstemann (2004) for Germany.

regulation more broadly is to preserve the stability of the financial system and investors' confidence in financial markets.⁷ Disclosure requirements obviously play a role in achieving this broader goal as well. As a result, reporting regulation generally serves multiple (overlapping) goals. Generally, the goals can and do differ across countries. Their choice is likely driven by the role of corporate reporting in the economy, which in turn depends on many other institutional and market factors, such as the structure of the capital markets and the legal system. However, a reasonable conjecture is that, in well-functioning economies, the reporting system is geared towards satisfying the informational and contracting needs of the key parties in the economy, as this focus generates transaction cost savings (and is also plausible from a political economy point of view). The identity of these key parties can obviously differ across countries, as can the channels through which these needs are satisfied – public disclosure is only one of them.

2.3. *Who should regulate and at what level?*

In designing reporting regulation, we also need to decide who should regulate (or set the standards). Reporting regimes can be created privately, e.g. by a professional standard-setter or an exchange via a listing agreement, or by a public regulator via a mandate, or by the judiciary and a law. Private standard-setters could be viewed as closer to a market solution, offering expertise in complicated technical matters, and generally set up to be independent in an attempt to reduce political influence. But they lack investigative and enforcement powers that public regulators are generally endowed with.

A closely related decision is at what level reporting regulation takes place. It is conceivable to create reporting regimes at the exchange, state, country or at a supranational level. Obviously, these choices can be combined. For instance, a country could mandate corporate reporting by law, create a public regulator for oversight and enforcement, but leave the creation of specific reporting rules to a private standard-setter. This is essentially the US model for reporting regulation. But other models are conceivable, and exist around the world.

In general, regulating at a higher level (e.g. country) generates larger benefits from standardisation and exploits network externalities. This is one of the reasons behind the push towards IFRS

around the world (e.g. Währisch, 2001). Regulating at a lower level (e.g. exchange) allows more fine-tuning to needs of firms and investors, and hence avoids the problems of a one-size-fits-all approach (e.g. Bushee and Leuz, 2005). Regulation at a lower level (e.g. state or exchange) can also facilitate competition among regulatory regimes (e.g. Mahoney, 1997; Choi and Guzman, 1998; Romano, 1998 and 2001; Huddart et al., 1999; Sunder, 2002). Regulatory competition requires that firms are free to choose among regimes, as otherwise competition is severely limited. But even then competition among regulatory regimes faces serious limitations (Fox, 1999; Coates, 2001; Rock, 2002). One issue is that a firm's regime is typically chosen by managers, and not by shareholders, which implies competition may be hampered by agency problems. Another issue is that competition among regimes can provide incentives to be lenient when it comes to enforcing rules. This concern arises in particular when exchanges compete for listings (e.g. Kahan, 1997; Gadinis and Jackson, 2007; but see also Huddart et al., 1999). Moreover, exchanges and private standard-setters typically have limited investigative powers and do not have the power to impose criminal penalties if their rules are violated. Exchanges can expel or delist firms, which can be a significant threat or sanction, but as discussed in Section 2.1 access to criminal penalties could be one reason to have regulation in the first place.

A way to maintain access to criminal penalties and centralised enforcement but to fine-tune the rules to particular firms is to introduce a system of scaled regulation with multiple tiers. Such a system could, for instance, include three tiers: a premier segment, a standard segment, and a segment for smaller growth firms (see also Leuz and Wysocki, 2006). The premier segment would have the most onerous reporting requirements, while the other two segments would offer exemptions and less stringent requirements. The regulator could let firms opt into these segments or could assign firms to these segments based on certain criteria, e.g. the perceived benefits from stricter reporting regulation.⁸ Germany's Deutsche Börse offers a two-tier structure for the same exchange and within the German enforcement system. The various 'new markets' or 'alternative markets' around the world (such as London's Alternative Investment Market) are examples of market seg-

⁷ For instance, the UK's Financial Services and Markets Act sets out four statutory objectives: market confidence, public awareness, consumer protection, and reduction of financial crime. See also Jackson (2006).

⁸ In Section 4, I discuss how this concept could be implemented at the international level and with respect to IFRS reporting.

ments offering reporting regulation geared towards smaller growth firms.

It is important to recognise that even if firms are not given an explicit choice among regulatory regimes, they still have many (implicit) choices and can respond to the imposition of regulation. For instance, firms can go private, raise money from an unregulated market, or choose not to go public. Such avoidance strategies can impair the effectiveness of regulation or can lead to unintended consequences.⁹ Thus, understanding firms' potential responses and their avoidance strategies is crucial when designing and evaluating reporting regulation.

These issues become even more complicated in international securities markets. Here, the regulations of various countries interact with each other (e.g. Stulz, 2009). The liberalisation and globalisation of financial markets has given firms more ways to respond to home-country regulation, to attract capital from foreign investors and to 'opt into' stricter foreign regulatory regimes. For instance, firms can cross-list in another country to subject themselves to (stricter) foreign regulation in order to overcome regulatory, institutional, or other constraints in the home country and to reassure outside investors. This is the basic idea behind the so-called bonding hypothesis advanced by Coffee (1999) and Stulz (1999) to explain why many firms, particularly from emerging market economies, have sought cross-listings on US exchanges. US securities laws give stronger rights to outside investors and require more extensive disclosures than many other countries. Perhaps more importantly, the SEC and US-style private securities litigation enforce these rules more strictly than other countries (Coffee, 2007). The cross-listing literature shows that there are firms that voluntarily seek stricter regulation and that investors reward such behaviour.¹⁰ But it also demonstrates that not all firms (or controlling insiders) find stricter commitments beneficial (e.g. Leuz and Oberholzer-Gee, 2006; Doidge et al., 2009b). The cross-listing literature also illustrates my point that firms have regulatory choices even if the (home-country) regime does not explicitly provide them.

2.4. What information should be reported and how much discretion do firms have?

A key design choice, and typically the most debated issue, concerns what information firms (or financial intermediaries) should actually report and how the information should be reported. This issue has explicitly or implicitly been the motivation for decades of accounting research, and it is obviously beyond the scope of this paper to discuss specific reporting or disclosure rules. However, it is worth pointing out that the question of what firms should report ties closely into the question of why regulation is beneficial in the first place. If the underlying rationale for regulation is to create cost savings by mandating a standardised solution that is close to what firms would be willing to provide in private contracts, then the rules should focus on general-purpose information that is likely to be useful for many different contracts. If the underlying rationale is based on dead-weight costs from fraud and agency conflicts, the rules should focus on information that aids in the detection of fraud or is useful in assessing agency conflicts or in monitoring insiders.

Furthermore, it is important to recognise that mandating disclosures has costs. There are the direct costs of producing, disseminating and verifying the information. In addition, there can be indirect costs because disclosures to capital market participants can also be used by other parties (e.g. competitors, labour unions, regulators, tax authorities, etc.). For example, detailed information about line-of-business profitability can reveal proprietary information to competitors (e.g. Verrecchia, 1983; Wagenhofer, 1990; Feltham et al., 1992). Mandating all firms to provide the same information is likely to dampen proprietary costs because then firms not only give information to their competitors but also obtain information from them. But it is clear that there are limits to what regulation should compel firms to provide. Full disclosure would ultimately destroy firms' incentives to innovate and threaten their very existence.

An important choice in designing reporting regulation is the degree to which the rules provide discretion to firms. The accounting literature has pointed out that discretion is a double-edged sword. On one hand, discretion makes the application of reporting regulation less costly for firms. Moreover, it allows corporate insiders to convey private information that resides within the firm and to adapt reports so that they better reflect the underlying economic reality. On the other hand, discretion can be used opportunistically. For instance, corporate insiders could use reporting discretion to

⁹ The studies by Jarrell (1981), Bushee and Leuz (2005), Leuz et al. (2008) provide examples.

¹⁰ Consistent with the bonding hypothesis, empirical studies show that foreign firms with cross listings in the US raise more external finance, have higher valuations, a lower cost of capital, more analyst following and report higher-quality accounting numbers than their foreign counterparts (e.g. Reese and Weisbach, 2002; Lang et al. 2003a and 2003b; Doidge et al., 2004 and 2009a; Bailey et al., 2006; Hail and Leuz, 2009).

hide poor economic performance, achieve certain earnings targets, or avoid covenant violations. Given insiders' information advantage, it is difficult to constrain such behaviour. As a result, how firms use discretion built into the reporting rules largely depends on insiders' reporting incentives. These incentives are shaped by many factors, including capital market forces, corporate governance and countries' institutional factors (e.g. Ball et al., 2003; Burgstahler et al., 2006). Thus, the optimal level of discretion built into reporting regulation is more likely to be a function of a country's institutional infrastructure, i.e. not independent of other elements in the infrastructure.

2.5. *How are the rules enforced?*

An important regulatory choice that is often given less attention than the design of the rules is the question of how the rules are enforced. This question comprises deciding who enforces the rules (e.g. contracting parties, independent third party, public enforcer), how compliance is monitored (e.g. a regulator, such as the SEC, reviews firms' filings) and what penalties and sanctions are available in case of a violation (e.g. monetary, non-monetary, criminal penalties).

As always, there are various trade-offs among these choices. For instance, when enforcement is left to the contracting parties, well-functioning courts are of central importance. When enforcement is delegated to a third party such as an auditor or to a public enforcement agency, the incentives of the enforcer and the question of who monitors the monitor become central issues. Emphasising the role of enforcement, Djankov et al. (2003) and Shleifer (2005) have put forward an enforcement theory of regulation. The premise of this theory is that all strategies to implement a socially desirable policy are imperfect and that optimal institutional design involves a trade-off between imperfect alternatives. As a result, implementation and enforcement play a central role for the success of regulation.

Surprisingly, the accounting literature has given less attention to the issue of enforcement, despite the fact that enforcement is critical to the proper application of the accounting rules.¹¹ However, there is a growing literature on the role of enforcement differences across countries for financial market outcomes and also accounting quality (e.g. La Porta et al., 1997, 1998, 2006; Leuz et al.,

2003; Burgstahler et al., 2006). In fact, Coffee (2007) argues that such enforcement differences do a better job explaining differences in financial development, market valuations and the cost of capital across countries than formal legal rules or disclosure standards. In addition, there is a nascent literature on the relative role of public versus private enforcement for financial development (La Porta et al., 2006; Jackson, 2007; Jackson and Roe, 2009).

3. Interdependencies among regulatory choices

In designing reporting regulation, it is important to recognise that there are interdependencies between the various regulatory choices outlined in the previous sections. I have already alluded to several of these interdependencies. Below I provide a few more examples and then introduce the concept of institutional complementarities. This concept is central to understanding why countries differ in their differences in (reporting) regulation across countries.

An important (and obvious) example is interdependencies between reporting rules and enforcement. As a result, reporting rules cannot be designed without considering enforcement, and vice versa. For instance, it is possible that a particular rule gives too much discretion to management and, as a result, makes the enforcement of the rule impossible or very costly. Private enforcement mechanisms, such as shareholder litigation, rely heavily on the availability of information to outside investors, and hence benefit from disclosure requirements. The interdependencies between rules and enforcement are also at the heart of the debate about 'rules versus principles' in the accounting literature. Rules-based standards tend to be more bright-line and are generally easier to apply, but they are likely to invite more gaming behaviour (e.g. contracting around the rules) compared to principles-based standards. Principles-based standards in turn give more discretion to firms, which can enable managers to convey private information to the markets in a less costly fashion, but the discretion also allows managers to pursue ulterior reporting motives.

Another example is interdependencies between ex ante rules and ex post remedies. Recent work by Glaeser et al. (2001), Djankov et al. (2003) and Shleifer (2005) points to these interdependencies and argues that, generally speaking, there needs to be a balance between ex ante regulation to induce desirable outcomes (or discourage malfeasance) versus ex post remedies to penalise undesirable

¹¹ An obvious exception is the large literature on auditing (see, e.g., the surveys by Francis, 2004; DeFond and Francis, 2005).

outcomes (or malfeasance).¹² For example, if ex ante regulation fails to specify all contingencies or to foresee innovations in malfeasance, then parties often rely on courts to settle the matter ex post. But if the judicial 'weapons' are unequal across litigants or there are agency problems with respect to the courts and judges, ex post remedies can deliver inefficient outcomes. For instance, it seems plausible that richer, better connected, and better represented controlling insiders have a stronger influence on the course of justice than defrauded, small investors (Shleifer, 2005). Ex ante rules can mitigate this shortcoming of private enforcement because they limit court discretion (Shleifer, 2005). For example, it is easier for a firm to convince a judge or jury that certain reporting behaviour was appropriate when there are no specific rules of what needs to be disclosed.

3.1. *Notion of institutional complementarities*

Reporting regulation is one of many elements of a country's institutional infrastructure.¹³ The elements of the institutional infrastructure are interdependent. To see this, consider the role of corporate reporting in financial contracting. Financial claims and control rights are often defined in accounting terms: e.g. financial ratios specify when a corporate borrower is in (technical) default or how much the borrower can pay in dividends. Investors in public equity markets use corporate reports to monitor their claims, make investment decisions or exercise their rights at shareholder meetings. Firms will probably respond to these needs by various parties and, as a result, firms' reporting practices are likely to reflect ownership and financing patterns in a country (e.g. Ball et al., 2000; Leuz et al., 2003). Conversely, reporting standards can influence financial contracting, for example, with respect to leases, off-balance sheet financing, and equity-based compensation. Due to these interdependencies, it is reasonable to expect that corporate reporting evolves in concert with other elements of the institutional framework to facilitate, among other things, financial transactions and contracting. Put differently, in well-functioning economies, corporate reporting regulation and other elements

of the institutional infrastructure are probably designed to fit and reinforce each other.

In addition, there are transaction cost considerations. It is generally cheaper to provide a common set of reporting rules for many contracts than to negotiate a particular set of rules on a contract-by-contract basis (e.g. Rcass, 1979; Mahoney, 1995; Ball, 2001). To capitalise on these transaction cost savings, countries are expected to design reporting requirements for the informational and contracting needs of the key parties (e.g. main suppliers of finance) in an economy. Such a focus on the key parties in the economy is also plausible because they are active and powerful participants in the political process (e.g. lobbying).

Thus, to the extent that the identity of the key parties differs across countries, reporting regulation is expected to differ across countries. Put differently, the notion of complementarities provides a powerful explanation as to why reporting regulation differs across countries and markets. It also has two further implications. First, it is unlikely that there is a reporting regime that is optimal for all countries around the world. The net benefits of high-quality corporate reporting are likely to vary significantly across countries, and forcing certain disclosures can impose substantial costs on firms. Thus, regulators and standard-setters need to carefully weigh the confluence of costs and benefits of reporting regulation to firms, investors, and other parties in the economy.

Second, the notion of complementarities implies that we have to be careful in evaluating particular reporting requirements in isolation from other elements of the institutional framework. Seemingly successful reporting regulation in one country may not translate well to other countries. For the same reason, unilateral changes in accounting standards (such as IFRS adoption) may not yield the desired outcomes (e.g. Ball, 2006; Hail et al., 2009).

3.2. *Comparison of two stylised approaches to reporting regulation*¹⁴

To illustrate the role of institutional complementarities and their implications for corporate reporting, I consider two stylised financial systems. Following prior research, I distinguish between an 'outsider' system and a 'relationship-based' or 'insider' system (e.g. Franks and Mayer, 1994; Berglöf, 1997; Schmidt and Tyrell, 1997; Rajan and Zingales, 1998; Allen and Gale, 2000). The two systems differ

¹² In a related fashion, Easterbrock and Fischel (1984) and Mahoney (1995) argue that mandatory disclosure and anti-fraud provisions are complementary.

¹³ A country's institutional infrastructure (or framework) comprises public and private rules, conventions and organisations that shape economic behaviour. This includes the legal system, banking system, taxation system, capital markets, regulatory and enforcement agencies, industry associations, standard-setting bodies, etc.

¹⁴ This section borrows heavily from a similar comparison in Leuz and Wüstemann (2004).

fundamentally in the way they channel capital to investment opportunities, how they ensure a return to investors and, most importantly for my purposes, in the way they reduce information asymmetries between contracting and financing parties.

In an outsider system, firms rely heavily on public debt or equity markets in raising capital. Corporate ownership is dispersed and largely in the hands of consumers that invest their savings directly or indirectly via mutual funds in public debt or equity markets. Thus, investors are at arm's length from firms and do not have privileged access to information. They are protected by explicit contracts and extensive rights, which in turn requires a well-functioning legal system (La Porta et al., 1998). In such a system, corporate reporting and disclosure is crucial to resolve information asymmetries among firms and investors. It enables investors to monitor their financial claims and to exercise their rights. Thus, the reporting system is expected to focus on outside investors. Its goal is to ensure that outside investors are reasonably well informed and, hence, willing to invest in the public debt and equity markets. Put differently, in an outsider system, there is a strong demand for transparent reporting (e.g. Ball et al., 2000; Bushman et al., 2004; Burgstahler et al., 2006).

In contrast, in a relationship-based system, firms establish close relationships with banks and other financial intermediaries and rely heavily on internal financing instead of raising capital in public equity or debt markets. As a result, corporate ownership is concentrated and corporate governance is mainly in the hands of insiders (e.g. board members). In this system, the key parties have privileged access to information through their relationships, and information asymmetries are resolved primarily via private channels rather than public disclosure. Here, the role of corporate reporting is not so much to publicly disseminate information, but to facilitate relationship-based financing, for instance, by limiting the claims of outside shareholders to dividends, which protects creditors and promotes internal financing (e.g. Ball et al., 2000; Leuz and Wüstemann, 2004). Put differently, corporate reporting and accounting takes on other roles, such as the determination or restriction of payouts, because insiders have privileged access to information through their relationships and hence do not rely on public disclosure. Thus, the key contracting and financing parties are already reasonably well informed. Outsiders may face a lack of transparency but opacity is an important feature of the system because it protects relationships from the threat of competition (e.g. Rajan and Zingales, 1998).

This comparison is clearly stylised and not meant to describe the reporting system of a particular country. In fact, most countries fall somewhere between these two extremes. The point of this comparison is to illustrate the notion of complementarities and their role in explaining why reporting regimes differ across countries. This simple comparison also illustrates that it is important to adopt a broader perspective when evaluating the overall performance of reporting systems. In relationship-based economies, the goal of corporate reporting is not likely to publicly disseminate information and hence institutional comparisons along this dimension can be misleading. A more complete assessment should include private information channels and contracting roles of corporate reporting. In this regard, it is important to note that commonly used datasets describing features of countries' reporting systems focus primarily on disclosure and public information channels.

4. Different approaches to reporting regulation: descriptive evidence

As Section 3 explains, countries are expected to differ in their regulatory approaches to corporate reporting given the many institutional differences across countries. In this section, I provide basic descriptive evidence and simple empirical analyses illustrating these differences. I draw on prior empirical studies creating and using various proxies for countries' institutional features, in particular, the work by La Porta et al. (1997, 1998, and 2006) and Djankov et al. (2008). Given the topic of my paper, I focus on variables that broadly describe countries' approaches to securities regulation and investor protection and, in particular, the reporting requirements and enforcement mechanisms embedded in these regulations.

4.1. Descriptive statistics on countries' regulatory regimes

Table 1 summarises institutional data for 49 countries around the world. These data were created or updated in the 2000s. The first four columns describe the origin of a country's legal system, its assignment to a cultural group based on cultural variables and geographic considerations (Licht et al., 2007), a binary classification into developed and emerging capital markets, and the per capita gross domestic product (GDP) in the year 2000.

The next three variables describe a country's securities regulation. Based on answers to an extensive questionnaire distributed to security-law attorneys in 49 countries, La Porta et al. (2006) construct three scores capturing the nature and

Table 1
Selected institutional characteristics by country

Country name	Legal origin	Cultural region	Developed		Real per capita GDP	Securities regulation			Anti-director rights	Self-dealing			Class-action lawsuits	
			capital market	region		Disclosure requirements	Liability standard	Public enforcement		Ex ante control	Ex post control	Public enforcement		Rule of law
Argentina	French	LA	0		11,000	0.50	0.22	0.58	2	0.33	0.35	0	0.18	0
Australia	English	ES	1		26,000	0.75	0.66	0.90	4	0.89	0.63	0.5	2.00	1
Austria	German	WE	1		27,000	0.25	0.11	0.17	3	0.00	0.43	1	2.10	0
Belgium	French	WE	1		25,000	0.42	0.44	0.15	3	0.39	0.70	0.5	1.64	0
Brazil	French	LA	0		7,000	0.25	0.33	0.58	5	0.22	0.32	0.5	-0.15	1
Canada	English	ES	1		27,000	0.92	1.00	0.80	4	0.33	0.95	1	2.01	1
Chile	French	LA	0		11,000	0.58	0.33	0.60	4	0.50	0.75	1	1.33	0
Colombia	French	LA	0		6,000	0.42	0.11	0.58	3	0.83	0.31	0	-0.64	1
Denmark	Scandinavian	WE	1		28,000	0.58	0.55	0.37	4	0.25	0.68	0.75	1.97	0
Egypt	French	ME	0		5,000	0.50	0.22	0.30	3	0.08	0.32	0	0.23	0
Ecuador	French	LA	0		4,000	0.00	0.11	0.55	2	0.00	0.15	1	-0.66	0
Finland	Scandinavian	WE	1		23,000	0.50	0.66	0.32	4	0.14	0.77	0	2.13	0
France	French	WE	1		25,000	0.75	0.22	0.77	4	0.08	0.68	0.5	1.49	1
Germany	German	WE	1		25,000	0.42	0.00	0.22	4	0.14	0.43	1	1.91	0
Greece	French	WE	0		14,000	0.33	0.50	0.32	2	0.08	0.35	0.5	0.75	0
Hong Kong	English	FE	1		27,000	0.92	0.66	0.87	5	1.00	0.93	0	1.66	0
India	English	FE	0		3,000	0.92	0.66	0.67	5	0.33	0.82	0.5	0.23	1
Indonesia	French	FE	0		4,000	0.50	0.66	0.62	4	0.81	0.50	0	-0.90	0
Ireland	English	ES	1		25,000	0.67	0.44	0.37	5	0.78	0.80	0	1.86	0
Israel	English	NC	0		22,000	0.67	0.66	0.63	4	0.50	0.95	1	1.08	1
Italy	French	WE	1		22,000	0.67	0.67	0.48	2	0.17	0.68	0	0.94	0
Japan	German	FE	1		24,000	0.75	0.66	0.00	5	0.22	0.77	0	1.82	0
Jordan	French	ME	0		4,000	0.67	0.22	0.60	1	0.17	0.16	0	0.57	0
Korea (South)	German	FE	0		16,000	0.75	0.66	0.25	5	0.25	0.69	0.5	0.65	0
Kenya	English	AF	0		1,000	0.50	0.44	0.70	2	0.17	0.25	0	-1.02	1
Malaysia	English	FE	0		11,000	0.92	0.66	0.77	5	1.00	0.90	1	0.55	1
Mexico	French	LA	0		8,000	0.58	0.11	0.35	3	0.19	0.15	0.5	-0.37	0
Netherlands	French	WE	1		26,000	0.50	0.89	0.47	3	0.06	0.35	0	1.97	1
New Zealand	English	ES	1		20,000	0.67	0.44	0.33	4	1.00	0.90	0	1.99	1
Norway	Scandinavian	WE	1		33,000	0.58	0.39	0.32	4	0.42	0.43	1	2.01	0
Nigeria	English	AF	0		1,000	0.67	0.39	0.33	4	0.17	0.70	0	-1.06	1
Pakistan	English	ES	0		2,000	0.58	0.39	0.58	4	0.17	0.65	0.75	-0.62	1

Table 1
Selected institutional characteristics by country (continued)

Country name	Legal origin	Cultural region	Developed capital market	Real per capita GDP	Securities regulation			Anti-director rights			Self-dealing			Class-action of law lawsuits
					Disclosure requirements	Liability standard	Public enforcement	Public	director	Ex ante control	Ex post control	Public enforcement	Rule	
Peru	French	LA	0	4,000	0.33	0.66	0.78	4		0.25	0.65	0.25	-0.52	0
Philippines	French	FE	0	4,000	0.83	1.00	0.83	4		0.06	0.38	0	-0.50	1
Portugal	French	WE	1	17,000	0.42	0.66	0.58	3		0.14	0.75	1	1.16	1
Singapore	English	FE	1	29,000	1.00	0.66	0.87	5		1.00	1.00	1	2.12	0
South Africa	English	AF	0	8,000	0.83	0.66	0.25	5		1.00	0.63	0	0.30	0
Spain	French	WE	1	20,000	0.50	0.66	0.33	5		0.22	0.52	1	1.38	1
Sri Lanka	English	FE	0	4,000	0.75	0.39	0.43	4		0.08	0.70	0	-0.17	0
Sweden	Scandinavian	WE	1	25,000	0.58	0.28	0.50	4		0.17	0.50	1	1.98	0
Switzerland	German	WE	1	29,000	0.67	0.44	0.33	3		0.08	0.45	0.75	2.22	0
Taiwan	German	FE	0	19,000	0.75	0.66	0.52	3		0.42	0.71	0	0.87	1
Thailand	English	FE	0	6,000	0.92	0.22	0.72	4		1.00	0.63	0	0.43	0
Turkey	French	ME	0	6,000	0.50	0.22	0.63	3		0.33	0.52	0	0.07	0
United Kingdom	English	ES	1	25,000	0.83	0.66	0.68	5		1.00	0.90	0	1.93	1
United States	English	ES	1	34,000	1.00	1.00	0.90	3		0.33	0.98	0	1.92	1
Uruguay	French	LA	0	11,000	0.00	0.11	0.57	1		0.08	0.28	0.5	0.66	0
Venezuela	French	LA	0	7,000	0.17	0.22	0.55	1		0.08	0.10	0	-0.81	0
Zimbabwe	English	AF	0	3,000	0.50	0.44	0.42	4		0.33	0.45	0.5	-0.73	1

The sample comprises data for 49 countries. *Legal origin* denotes the origin of the country's legal system and is taken from Djankov et al. (2008). *Cultural region* is a classification of countries into major cultural groups based on Licht et al. (2007). It is determined by a combination of culture variables and geographic considerations (AF = Africa, ES = English-speaking, FE = Far East, LA = Latin America, ME = Mediterranean, NC = not classified, WE = Western Europe). *Developed capital market* is a binary classification into developed and emerging markets as given in MSCI/Barra database in 2000. *Real per capita GDP* in 2000 is based on a chained index and taken from Penn World Tables. The next three variables describe a country's securities regulation and are taken from La Porta et al. (2006). The first variable is the level of *disclosure requirements* in securities offerings. *Liability standard* equals the arithmetic mean of the liability standards for issuers, its directors, distributors, and accountants. *Public enforcement* is a summary index of several sub-indices on public enforcement of securities regulation (supervisor characteristics index, rule-making power index, investigative powers index, orders index, and criminal index). *Anti-director rights* represent an aggregate measure of minority shareholder rights. I use the revised index provided in Djankov et al. (2008). The following three variables pertain to the protection of outsiders against self-dealing by insiders and are taken from Djankov et al. (2008). *Ex ante control* of self-dealing is the average of requirements for approval by disinterested shareholders and ex-ante disclosure. *Ex post control* of self-dealing is the average of disclosure in periodic filings and ease of proving wrongdoing. *Public enforcement* of anti self-dealing provisions measures available fines and sanctions to the public enforcer. The *Rule of Law index* is an assessment of the overall legal quality and of law and order in the country. It is taken from Kaufmann et al. (2003). *Class-action suit availability* takes a value of 1 if class-action suit is available and a value of 0 otherwise.

enforcement of rules governing security issuance. Each score ranges from zero to one with higher values indicating more extensive requirements or stricter enforcement: (1) the first score captures disclosure requirements at the country's largest stock exchange in securities offerings covering the prospectus, directors' compensation, ownership structure and inside ownership, related-party transactions and contracts; (2) the liability standard index captures procedural difficulties in recovering losses from the issuer, the directors and the accountants in a civil liability case; (3) the public enforcement index captures market supervision by a country's regulator, its investigative powers and the sanctions available.

As prior work shows that investor protection and corporate reporting are closely related (Leuz et al., 2003; Burgstahler et al., 2006), the next four columns contain indices describing the level of outside investor protection: (1) the revised anti-director rights index from Djankov et al. (2008) captures aggregate shareholder rights, primarily with respect to voting; (2) the second index measures the strength of private enforcement of provisions against self-dealing by insiders focusing on *ex ante* control (e.g. requiring approval by disinterested shareholders and *ex ante* disclosures); (3) the third index measures the strength of private enforcement of provisions against self-dealing by insiders focusing on *ex post* control (e.g. periodic filings requirements and ease of proving wrongdoing); (4) the fourth index captures the strength of public enforcement of self-dealing provisions related to approval and disclosure requirements. For all four indices, higher values indicate more extensive outside investor protection.

The last two columns in Table 1 contain variables describing a country's legal system: (1) the rule of law index from Kaufmann et al. (2003) measures the overall quality of the legal system including the courts;¹⁵ (2) a binary variable indicating whether class-action lawsuits are available to investors.

As Table 1 illustrates, regulatory regimes differ considerably across countries. However, there are also remarkable similarities among (certain) countries and robust patterns in countries' institutional characteristics. Table 2 highlights several of these patterns. As documented by La Porta et al. (1997, 1998 and 2006) and Djankov et al. (2008), countries

with an English legal origin tend to have more extensive disclosure requirements, stronger private and public enforcement of securities regulation, stronger shareholder and creditor rights, stricter private and public protection against self-dealing, and more frequently allow class-action lawsuits. The only exceptions are the public enforcement of self-dealing provisions and the rule of law index, for which countries with German and Scandinavian legal origins tend to score higher. Countries with a French legal origin tend to have the lowest scores for most of these variables. Exceptions are the public enforcement of securities regulations and the availability of class-action lawsuits.¹⁶

Grouping countries by cultural and geographical region produces similar insights. English-speaking countries tend to exhibit the highest scores on all variables, except public enforcement of self-dealing provisions and the overall quality of the legal system. Countries in the Far East group have relatively high scores with respect to the disclosure requirements in securities laws, anti-director rights and anti-self-dealing provisions, but score much lower for public enforcement of self-dealing provisions and the rule of law in general. Western European countries generally have weaker securities laws and rely less on disclosure to address self-dealing, consistent with the perception that they are focused on relationships rather than arm's length contracting. Latin American countries tend to exhibit the lowest scores for most institutional variables.

Interestingly, using either the legal origin or the cultural grouping, there is no clear pattern with respect to the reliance on public versus private enforcement mechanisms across different regulations. For instance, Western European countries have relatively low scores for public enforcement of securities regulation but relatively high scores for public enforcement of anti-self-dealing provisions. This pattern is primarily driven by countries with German or Scandinavian legal origins. Countries with French legal origin exhibit the reverse pattern, i.e. relatively high scores for public enforcement of securities regulation. Thus, it is not necessarily the case that countries with relatively stronger public

¹⁵ La Porta et al. (1998) provide several other variables capturing the effectiveness of the legal system. They are all highly correlated with the rule of law variable. Moreover, aggregating these proxies into a single legal quality variable generally yields similar results. See also Berkowitz et al. (2003) and Leuz et al. (2003).

¹⁶ In interpreting these findings, it is important to keep in mind that available institutional data tends to rank countries with respect to features that are desirable for outside investors and arm's length transactions. This explains why some countries (e.g. those with English legal origin) score highly on almost all characteristics. They tend to be organised as outsider economies along the lines of my discussion in Section 3. Private channels of communication among stakeholders are typically not evaluated in these institutional datasets but these channels may play a major role in insider economies.

Table 2
Selected institutional characteristics by legal origin, cultural region, capital market development and per-capita GDP

	Securities regulation			Self-dealing protection				Rule of law index	Class-action suit availability
	Disclosure requirements	Liability standard	Public enforcement	Anti-director rights	Ex ante control	Ex post control	Public enforcement		
<i>Legal origin</i>									
English	0.78	0.58	0.62	4.22	0.62	0.76	0.35	0.80	0.67
French	0.45	0.41	0.53	2.86	0.24	0.43	0.35	0.37	0.33
German	0.60	0.42	0.25	3.50	0.19	0.58	0.54	1.60	0.17
Scandinavian	0.56	0.47	0.38	3.63	0.24	0.59	0.69	2.02	0.00
<i>Cultural region</i>									
Africa (AF)	0.63	0.48	0.43	3.75	0.42	0.51	0.13	-0.63	0.75
English-Speaking (ES)	0.77	0.66	0.65	4.14	0.64	0.83	0.32	1.58	0.86
Far East (FE)	0.82	0.63	0.59	4.36	0.56	0.73	0.27	0.62	0.36
Latin America (LA)	0.31	0.24	0.57	2.72	0.28	0.34	0.42	-0.11	0.22
Mediterranean (ME)	0.56	0.22	0.51	2.33	0.19	0.34	0.00	0.29	0.00
Western Europe (WS)	0.51	0.46	0.38	3.14	0.17	0.55	0.64	1.69	0.29
<i>Capital market development</i>									
Emerging markets	0.55	0.42	0.55	3.33	0.35	0.50	0.31	-0.01	0.41
Developed markets	0.65	0.55	0.49	3.70	0.40	0.69	0.50	1.83	0.41
<i>Per-capita GDP for 2000</i>									
Low	0.53	0.39	0.58	3.32	0.30	0.45	0.21	-0.37	0.47
Medium	0.59	0.52	0.43	3.44	0.39	0.63	0.44	0.96	0.38
High	0.68	0.53	0.54	3.75	0.43	0.68	0.56	1.92	0.38
Total	0.60	0.48	0.52	3.50	0.37	0.58	0.40	0.82	0.41

The table provides means for various regulatory variables by legal origin, cultural region, capital market development and country wealth. The sample comprises data for 49 countries. See Table 1 for the definitions of the regulatory variables. *Legal origin* denotes the origin of the country's legal system and is taken from Djankov et al. (2008). *Cultural region* is a classification of countries into major cultural groups based on Licht et al. (2007). It is determined by a combination of culture variables and geographic considerations (AF = Africa, ES = English-speaking, FE = Far East, LA = Latin America, ME = Mediterranean, WE = Western Europe). *Capital market development* is a binary classification into developed and emerging markets as given in MSCI/Barra database in 2000. *Per capita GDP* is expressed in real terms for the year 2000 and taken from the Penn World Tables.

enforcement of securities laws also rely on strong public enforcement when it comes to anti-self-dealing provisions.

Splitting by market development, I find that countries with developed markets exhibit higher scores on almost all institutional variables than emerging markets. The differences are particularly pronounced for the rule of law. This result is not surprising and confirms the central message of La Porta et al. (1997, 1998 and 2006). Clearly, country wealth plays an important role in this result. To illustrate, if I partition the sample into three groups based on a country's per capita GDP, I find that wealthier countries exhibit higher scores on all variables, except public enforcement of securities laws, for which the ranking is not monotonic in country wealth.

In concluding this section, I should note that Table 1 does not contain variables that directly capture differences in reporting practices across countries. Given the topic of this paper, the table deliberately focuses on variables that describe the regulatory regime, including the associated enforcement system. However, firms' actual reporting practices depend crucially on the extent to which the rules 'on the books' are actually enforced and hence the extent to which the enforcement system actually uses available powers and penalties. In this regard, it is important to recall what the enforcement variables in Table 1 actually measure. They score countries, for instance, on the liability standards for various parties, the ease of proving wrongdoing, the investigative powers of the public supervisor, and the severity of available criminal penalties. As such, they describe the strength of countries' enforcement system but they do not necessarily capture actual enforcement activities or the severity of the penalties imposed (see also Jackson and Roe, 2009). I discuss this issue in more detail in Section 4.3.

4.2. Evidence on institutional clusters

Next, I turn to the question of what explains countries' regulatory choices and hence institutional patterns such as those in Table 1. The notion of institutional complementarities implies that there are combinations of institutional characteristics that are likely to be jointly observed. But what explains whether a country chooses a particular combination of institutional characteristics? This question has been heavily debated in the law and finance literature (e.g. La Porta et al., 1998; Beck et al., 2003; Berkowitz et al., 2003; Rajan and Zingales, 2003; Coffee, 2007). But it cannot be answered by a simple regression analysis. As institutional arrangements are likely to have been jointly chosen or have

jointly evolved over time, it is problematic to run a regression of one institutional variable (e.g. investor protection) on another institutional variable (e.g. disclosure regulation). Such an analysis essentially treats one variable as more primitive than another, which may be justified in some cases, but in many others it is clearly not appropriate, given the joint evolution of many institutional factors and the feedback effects between them.

Similar issues arise when regressing market outcomes (e.g. ownership concentration, financial development) on legal institutions or regulatory variables. Take for instance the association between dispersed ownership and investor protection. It is clearly plausible that strong investor protection facilitates the dispersion of ownership, essentially allowing investors to hold smaller stakes and to diversify without fear of expropriation. But it is equally plausible that, in countries with more dispersed ownership, regulators are more concerned about outside investor protection, especially in financial crises, as investors are likely to play an important role in the political process (Coffee, 2007). Thus, causality could run in both directions. This example highlights the interactive nature of institutional development, which makes it difficult to attribute a combination of institutional characteristics to a particular factor or reason.¹⁷

Moreover, a candidate variable like legal origin may act as a summary measure for a country's approach to a number of regulatory issues and therefore could have significant explanatory power in regressions involving institutional (or country) variables. But this finding does not imply that the variable itself is indeed a causal factor. For similar reasons, it can be misleading to run 'horse races' between institutional variables with respect to their explanatory power for outcomes such as countries' reporting practices or financial development.

At this point, there is no definitive answer as to why countries exhibit particular bundles of institutional characteristics but it is clear that many factors play a role, including legal, political and historical reasons (see also Malmendier, 2009). The existence of complementarities implies that countries' institutional frameworks exhibit hysteresis and path dependence. Thus, starting points and historical events matter for today's institutional infrastructures, making it difficult to disentangle the determinants of the institutional clusters.

¹⁷ That said, it is sometimes possible to exploit historical variation in regulation to study the link between regulation and market outcomes. See, for instance, the analysis in Agrawal (2009) for the effects of investor protection on firms' financing decisions and investment policy.

Table 3
Institutional clusters around the world (k=3)

Panel A: Cluster membership using regulatory variables only

<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>
Australia	Austria	Argentina
Canada	Belgium	Brazil
Hong Kong	Chile	Colombia
India	Denmark	Ecuador
Ireland	Finland	Egypt
Israel	France	Indonesia
Malaysia	Germany	Jordan
New Zealand	Greece	Kenya
Singapore	Italy	Mexico
South Africa	Japan	Nigeria
Taiwan	Korea (South)	Pakistan
Thailand	Netherlands	Peru
United Kingdom	Norway	Philippines
United States	Portugal	Sri Lanka
	Spain	Turkey
	Sweden	Uruguay
	Switzerland	Venezuela
		Zimbabwe

Panel B: Cluster membership using regulatory and market outcome variables

<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>
Australia	Austria	Argentina
Canada	Belgium	Brazil
Hong Kong	Chile	Colombia
Israel	Denmark	Ecuador
Malaysia	Finland	Egypt
Singapore	France	Indonesia
United Kingdom	Germany	Jordan
United States	Greece	Kenya
	India	Mexico
	Ireland	Nigeria
	Italy	Pakistan
	Japan	Peru
	Korea (South)	Philippines
	Netherlands	Sri Lanka
	New Zealand	Thailand
	Norway	Turkey
	Portugal	Uruguay
	South Africa	Venezuela
	Spain	Zimbabwe
	Sweden	
	Switzerland	
	Taiwan	



Table 3
Institutional clusters around the world ($k=3$) (continued)

Panel C: Cluster membership using regulatory and reporting practice variables

<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>
Australia	Austria	Argentina
Canada	Belgium	Brazil
Hong Kong	Chile	Colombia
Ireland	Denmark	Greece
Israel	Finland	India
Malaysia	France	Italy
New Zealand	Germany	Mexico
Singapore	Japan	Pakistan
South Africa	Korea (South)	Philippines
United Kingdom	Netherlands	Portugal
United States	Norway	Taiwan
	Spain	Thailand
	Sweden	
	Switzerland	

Panel D: Mean values for clusters in Panel B

	<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>
CIFAR disclosure score	66.36	71.64	77.63
Earnings management and opacity score	0.34	0.54	0.55

The table presents results from k-means cluster analyses for a sample of a maximum of 49 countries specifying three distinct clusters ($k=3$). Panel A reports the results using the regulatory variables from Table 2 with respect to securities regulation, investor protection and enforcement (except the indicator for class-action lawsuits as binary variables can be problematic in cluster analysis). Panel B extends the set of institutional variables and includes the regulatory variables plus three financial development variables from Djankov et al. (2008), i.e. the ratio of stock market capitalisation held by small shareholders to GDP, the ratio of the number of domestic firms listed in a given country to its population, and the ratio of equity issued by newly-listed firms in a given country to its GDP (all three ratios are averaged from 1996 to 2000). Panel C extends the set of institutional variables and includes the regulatory variables plus two variables that capture firms' reporting practices, i.e. the CIFAR disclosure score for 1995 and an updated earnings management and opacity score from Leuz et al. (2003) computed from 1995 to 2005. See Appendix Table for more details. All variables are standardised to z-scores. For all analyses, I sort the data by per-capita GDP in 2000 and specify that initially k nearly equal partitions are formed from the data such that approximately the first N/k observations are assigned to the first group, the second N/k observations to the second group, and so on. The group means from these k groups are used as the starting group centres. As cluster analysis can be sensitive to the initial starting groups, I repeat the analyses with different starting clusters to check robustness and representativeness of the final clusters. Panel D reports the mean CIFAR disclosure score and the mean earnings management and opacity score for each cluster in Panel B. The differences in means across clusters are statistically significant at the 10% level or better except for the difference in the earnings management scores between Cluster 2 and Cluster 3.

Considering these challenges, the goal of this section is more modest. It intends to illustrate the existence of institutional clusters and to demonstrate why commonly used variables (such as legal origin) yield such powerful characterisations. To do so, I follow the approach in Leuz et al. (2003) and identify country clusters with similar institutional features. This approach, while being descriptive and

exploratory in nature, captures interactions among institutional factors irrespective of where they come from. These clusters can also be used to document systematic patterns in corporate reporting practices. For instance, Leuz et al. (2003, Table 3) use nine institutional variables from La Porta et al. (1997 and 1998) and perform a k-means cluster analysis of 31 countries, ex ante specifying three country clusters.

These three clusters can be interpreted as follows. The first cluster is characterised by large stock markets, low ownership concentration, extensive outsider rights, high disclosure and strong legal enforcement. Thus, countries in the first cluster have institutional features that are typical for 'outsider economies' as described in Section 3.2. The countries in the second and third cluster have institutional features of 'insider economies' such as smaller stock markets, higher ownership concentration, weaker investor protection, and lower disclosure levels. Countries in the second and third cluster are similar on these dimensions but differ markedly in the strength of their legal systems. Thus, there are essentially two major factors in the data. One factor is the fundamental choice between an outsider system and an insider system. The other factor is the effectiveness of the legal and enforcement system. As the specific system choice is unlikely to matter much when the legal system that enforces the system is weak, there are only three clusters. The distribution of legal origins across the three clusters shown in Leuz et al. (2003: Table 3) is consistent with the above interpretation.

In this paper, I extend the cluster analysis in Leuz et al. (2003) in two ways: First, I expand the set of countries. Second, I use an updated set of institutional variables. Given the paper's focus on differences in reporting regulation around the world, I begin with a k-means cluster analysis that includes only regulatory (plus related enforcement) variables from Table 2. Like Leuz et al. (2003), I *ex ante* specify three clusters. Panel A of Table 3 reports the clusters from this analysis. The first cluster contains Anglo-American countries as well as other countries with English legal origin plus Taiwan. The second cluster consists of Continental European and Scandinavian countries, Chile and two developed countries from Asia with German legal origin, namely Japan and South Korea. The third cluster comprises developing market economies from Africa, Asia and Latin America.

Next, I include three variables for capital market development along with the regulatory variables.¹⁸ This specification is intended to capture similarities in financial market outcomes among countries and not just differences in the rules and the enforcement system. The results reported in Panel B are quite similar to those in Panel A. The main changes are

that several countries from the first cluster in Panel A move to the second cluster (e.g. India, South Africa, Taiwan) or to the third cluster (e.g. Thailand) as they have less developed financial markets. That is, while these countries have rules 'on the books' that are similar to the other countries in the first cluster, the capital market outcomes for these countries are more similar to those of countries in the second or third cluster, presumably indicating weaker enforcement of the rules.

In Panel C, I add two variables measuring the transparency of firms' reporting practices to the set of regulatory and enforcement variables: (1) the CIFAR disclosure index, which measures the inclusion or omission of certain information items in firms' annual reports and (2) an updated version of the earnings management and opacity score from Leuz et al. (2003), which captures four different properties of reported earnings.¹⁹ Both variables are available only for 37 countries. Nevertheless, the results including the two reporting practices variables are quite similar to those in Panel A using just the regulatory and related enforcement variables from Table 2. But we also see several reclassifications of countries from the first cluster in Panel A to the third cluster in Panel C (e.g. Thailand and Taiwan) and of countries from the second cluster in Panel A to the third cluster (e.g. Greece, Italy and Portugal), as they have more opaque reporting practices. These reclassifications again highlight the distinction between formal institutional design and actual outcomes and practices.

Overall, these results confirm the existence of institutional clusters with respect to securities regulation, investor protection and legal enforcement systems. Moreover, the resulting clusters resemble closely classifications by region, economic development and especially legal origin, even though these variables are *not* used in the cluster analysis. Cluster membership is fairly stable even if market outcomes and reporting practices are added to the analysis and the results do not appear particularly sensitive to the set of institutional variables. For all three panels in Table 3, the clusters fit the earlier categorisation by Leuz et al. (2003) into outsider economies (cluster 1), insider economies with better legal enforcement systems (cluster 2) and insider economies with weaker legal enforcement systems (cluster 3).

Obviously, these results and conclusions may hinge on the number of clusters that are *ex ante*

¹⁸ Whenever possible, I use variables that are close in time to the construction of the regulatory variables from Table 2. See description of Table 3 for details.

¹⁹ The updated earnings management and opacity score is computed from 1995 to 2005. It is the average of four scores as defined in Leuz et al. (2003) but computed with slight modifications. See Appendix for more details.

Table 4
Institutional clusters around the world (k=5)

<i>Cluster 1</i>	<i>Cluster 2</i>	<i>Cluster 3</i>	<i>Cluster 4</i>	<i>Cluster 5</i>
Australia	Belgium	Austria	Argentina	Brazil
Canada	Finland	Chile	Colombia	Indonesia
Hong Kong	Ireland	Denmark	Ecuador	Nigeria
India	Italy	France	Egypt	Pakistan
Israel	Japan	Germany	Greece	Peru
Malaysia	Korea (South)	Norway	Jordan	Philippines
Singapore	Netherlands	Portugal	Kenya	Sri Lanka
United Kingdom	New Zealand	Spain	Mexico	Thailand
United States	South Africa	Sweden	Uruguay	Turkey
	Taiwan	Switzerland	Venezuela	Zimbabwe

The table presents results from k-means cluster analysis for a sample of a maximum of 49 countries specifying five distinct clusters (k=5). The analysis uses the regulatory variables from Table 2 with respect to securities regulation, investor protection and enforcement (except the indicator for class-action lawsuits as binary variables can be problematic in cluster analysis). The clusters are similar if I extend the set of institutional variables and include three financial development variables for the year 2000 from Djankov et al. (2008). All variables are standardised to z-scores. I sort the data by per-capita GDP in 2000 and specify that initially k nearly equal partitions are formed from the data such that approximately the first N/k observations are assigned to the first group, the second N/k observations to the second group, and so on. The group means from these k groups are used as the starting group centres. As cluster analysis can be sensitive to the initial starting groups, I repeat the analyses with different starting clusters to check robustness and representativeness of the final clusters.

specified for the k-means cluster analysis.²⁰ As the number of clusters is arbitrarily chosen, I repeat the analysis increasing the number of clusters (setting k to four and five) and using the same three combinations of regulatory, market outcome and reporting practice variables as in Table 3. Clearly, specifying more clusters allows finer groupings of countries. To illustrate, Table 4 presents the results specifying five clusters and using only the regulatory variables. Compared to Table 3, Panel A, the emerging market economies now populate two clusters and the fourth cluster consists predominantly of countries with French legal origin.

However, the main thrust of the analysis is the same with more clusters as before. Clusters tend to reflect legal origin, geography, and country wealth (even though these variables are not used in the analysis), which probably explains why these distinctions have been heavily used in the literature to describe countries' institutional similarities and differences. The grouping of Anglo-American (or English legal origin) countries like the US, the UK, Australia and Canada into a cluster is a robust result,

as is the joint grouping of many Continental European countries. The UK often shares the same cluster with Canada, Hong Kong, India, Malaysia, Pakistan, and Singapore, indicating the UK's influence on the institutional design of its dominions and former colonies. This is especially true if the analysis uses variables that describe the formal design of the institutional system, rather than market or reporting outcomes. There is evidence of regional and cultural similarities (e.g. Germany and Austria almost always share a cluster; countries in Asia or Latin America often form a regional cluster) as well as evidence of similarities that come with country wealth (e.g. joint groupings of developing countries).

The robust grouping of countries with the same legal origin or from the same cultural region is consistent with the notion that history matters for institutional development. However, I do not claim that legal origin, geography or country wealth are causal determinants of countries' institutional infrastructures. But they are powerful summary variables that conveniently capture many institutional similarities and differences.

To conclude my institutional analysis, I examine differences in firms' reporting practices across the three institutional clusters presented in Table 3. Using the two transparency scores described earlier, I find that countries in cluster 1 have

²⁰ In addition, cluster analysis can be sensitive to the composition of the k starting clusters. I therefore perform sensitivity analyses using different starting clusters. The tenor of the results is similar but the final clusters can vary somewhat depending on the starting clusters chosen. See Table 3 for more details on starting clusters.

higher disclosure scores and more informative earnings than countries in cluster 2 or cluster 3 (Panel D, Table 3). Countries in cluster 2 exhibit on average higher transparency scores than countries in cluster 3. These differences are generally statistically significant and indicate that countries with stronger securities, investor protection and self-dealing regulation (and associated enforcement systems) tend to exhibit more transparent reporting practices.

4.3. Differences among countries in the same cluster: a caveat

Despite the clustering of countries documented in the previous section, I hasten to add that there are many differences between countries (in a given cluster) that are not captured by my analysis. As mentioned before, the analysis is deliberately conducted at a relatively high level to emphasise that reporting regulation is tied into the broader institutional infrastructure. But this should not mask the fact that even countries in the Anglo-American group exhibit material and important differences with respect to reporting regulation and related institutional arrangements, especially at a more micro level.²¹

For example, the US is generally viewed as having a more litigious environment than either Canada or the UK (e.g. Clarkson and Simunic, 1994). This difference can be important with respect to reporting regulation because of the role of shareholder litigation in enforcement. The Sarbanes-Oxley Act (SOX) and the debate about its costs to US firms illustrate this interaction and, more generally, the importance of institutional fit of reporting regulation. Coates (2007) argues that SOX was quite costly for US firms, not because of the internal control provisions per se, but due to its interaction with the US litigation system. Litigation concerns created incentives for managers, directors and auditors to overspend on internal controls because these parties bear only a fraction of the compliance costs but share disproportionately in the adverse consequences from control deficiencies.

Another (related) example for differences between countries in the same cluster is the level of enforcement activity in securities markets.²² Jackson (2007) shows that there are substantial differences in enforcement intensity of financial

regulation across jurisdictions and that they exist even between countries in the Anglo-American cluster. The US has much larger budgets and higher staffing levels than code-law countries like France, Germany or Sweden, even when adjusting by GDP or population. But US budgets and staff levels are also high compared to the UK (although much of this difference is driven by banking supervision). The differences between the US and the UK are more striking when looking at differences in enforcement activities in the securities markets. Jackson (2007) demonstrates that even adjusting for market size the SEC takes substantially more enforcement action and imposes substantially higher (monetary) penalties than the FSA in the UK (see also Jackson and Roe, 2009). Yet, this comparison is still likely to understate actual enforcement differences between the US and the UK because it does not account for private securities litigation and the imposition of criminal penalties, both of which tend to be more common in the US (Coffee, 2007). In many ways, the US appears to be a major outlier when it comes to enforcement and quite different from fellow Anglo-American countries.

One important implication of differences in enforcement activities across countries is that we have to be careful with de jure comparisons of enforcement systems and, more generally, regulation. The effect of regulation can differ substantially depending on the degree to which the rules are actually enforced (see also Mahoney, 2009). This also points to a limitation of those analyses in Section 4.2 that primarily focus on the differences in regulation and enforcement systems, rather than actual practices. However, these analyses are merely intended to illustrate similarities in institutional design and the existence of institutional complementarities. To address this issue, I also provide results using financial market outcomes and reporting practices, both of which should reflect de facto differences in regulation.²³

5. Evolution of reporting regimes and global accounting convergence

So far the discussion has focused primarily on (static) differences in reporting regulation and, more generally, on institutional differences across countries. But obviously reporting regimes evolve over time. Thus, in this section, I discuss the evolution of reporting regimes.

As noted before, there are far fewer academic

²¹ See also Coffee (2007) and Gadinis and Jackson (2007) and their detailed institutional comparisons of securities regulation in the US, UK and several other countries.

²² Yet another example is the 'comply-or-explain' approach to corporate governance in the UK, which is less prescriptive than the US approach as it manifests, for instance, in SOX.

²³ The obvious issue with using practices in regression analyses is their endogenous nature.

studies on what drives institutional change and regulatory reform compared to work on the rationale for regulation in the first place (see also Leuz and Wysocki, 2008). Regimes often change in response to financial crises and corporate scandals but political processes clearly play an important role. It is beyond the scope of this paper to discuss all potential factors that play a role for institutional change. Instead, I focus on the implications of two concepts that are central to this paper. First, I delineate the implications of institutional complementarities for the evolution of regulatory regimes in general. Second, I discuss what the documented differences in securities, investor protection and self-dealing regulation, including the respective enforcement systems, imply for a global convergence of reporting practices, which has been a goal of many standard-setters, regulators, politicians and market participants (e.g. G20 Progress Report on 25 September 2009). The demand for more comparable reporting practices has been the impetus for the widespread adoption of IFRS around the world, which is one of the most significant regulatory changes in accounting history.

My main point is that the existence of institutional differences and complementarities makes a widespread convergence of reporting practices in the foreseeable future unlikely. In fact, such convergence may even be undesirable. I therefore conclude this section with a proposal for a new regulatory approach that promises to achieve convergence in reporting practices for a set of firms for which comparable reporting practices is presumably in high demand and more likely to be achievable and beneficial.

5.1. Implications of institutional complementarities for the evolution of reporting regimes

The existence of institutional complementarities has a number of important implications for the evolution of reporting regimes. First, it implies that changes in reporting regulation cannot be considered in isolation and independent of other elements of the institutional infrastructure. Changing one element can make the system (or economy) worse off even when the element itself improves unambiguously. For instance, it is not obvious that a country is better off adopting IFRS even if we agreed that, considered in isolation, the set of IFRS is 'better' than the existing (local) reporting standards. Institutional fit should be part of the consideration. Thus, it is not obvious that having a single set of accounting standards around the world is desirable or that IFRS are the 'right' set

of reporting standards for every country, despite the potential comparability benefits.

Second, the existence of complementarities implies that there are impediments to institutional change because in order to preserve institutional fit, countries need to change (or adjust) several elements when they change one. Complementarities likely lead to path dependencies in institutional change, i.e. historical starting points matter. Given these impediments, convergence of regimes is likely to be slow and may not take place even if such convergence is desirable. Moreover, it is not obvious that regulatory competition among reporting regimes works or yields desirable outcomes.

A third implication is that even if countries harmonise their accounting standards at a given point in time (e.g. by adopting the same set of standards), it is questionable that this harmonisation is stable over time. The new set of standards will be subject to the same institutional and market pressures that shaped the old standards in the first place. Thus, unless other key institutional factors converge as well, countries adopting the rules (e.g. a common set of accounting standards) are likely to drift apart over time, in part due to local adaptation of the rules. These forces should not be underestimated. For instance, capital market pressures and new business practices probably were the major impetus for change in US accounting standards, and, more important than regulatory competition, with other accounting standards around the world (Hail et al., 2009).

5.2. Institutional differences, reporting incentives and reporting convergence

Existing institutional differences in securities, investor protection and self-dealing regulation and associated enforcement systems have important implications for the convergence reporting practices. Regulators and standard-setters around the world have undertaken substantial efforts to eliminate international differences in reporting standards. The development and worldwide adoption of IFRS have been at the core of these efforts. The idea is that the adoption of a common set of accounting standards leads to more comparable reporting practices around the world. There is also the hope that the adoption of a set of high-quality accounting standards, like IFRS, will lead to more transparent and higher-quality reporting in many countries.

While more comparable reporting (practices) can offer significant cost savings and economic benefits, recent work in the international accounting literature raises considerable doubt that these benefits will materialise as a result of worldwide IFRS adoption

(see, e.g. summary in Hail et al., 2009).²⁴ This work emphasises that firms' reporting practices are shaped by more than the accounting standards (or the enforcement of these standards) pointing to the importance of firms' reporting incentives as a key driver of observed reporting practices and hence the quality and comparability of the reported numbers.

The starting point of this literature is the recognition that accounting standards give firms substantial reporting discretion because the application of the standards generally involves considerable judgment. For example, accounting measurements rely on management's private information and involve an assessment of the future, which makes accounting measurements subjective representations of management's information set. It is also important to recognise that firms are given reporting discretion for a good reason (e.g. Watts and Zimmerman, 1986). Rigid reporting rules are unlikely to capture the complexities of firms' economic realities and make it harder to convey forward-looking information residing within management, which by its very nature is often less verifiable. Reporting discretion allows managers to use private information to produce reports that more accurately reflect firm performance and are more informative to outside parties. But whether managers use reporting discretion in this way depends on their reporting incentives. Managers may also have incentives to obfuscate economic performance, achieve certain earnings targets, avoid covenant violations, under-report liabilities, or smooth earnings – to name just a few. Given managers' information advantage over investors and even auditors and enforcement agencies, it is difficult to constrain such behaviour. But the issue is not just a matter of proper enforcement of the accounting standards. While strict enforcement limits what managers can report, it does not eliminate the discretion built into the rules. Even in a hypothetical world with perfect enforcement, observed reporting behaviour will differ as long as firms have different reporting incentives and the accounting standards offer discretion (Leuz, 2006).

Firms' reporting incentives are shaped by many country- and firm-level factors, including a country's legal institutions (e.g. the rule of law), the strength of the enforcement regime, capital market forces (e.g. the need to raise outside capital), product market competition, a firm's compensation structure, ownership and governance structure, as well as its operating characteristics (e.g. the business model or the length of the operating cycle).

²⁴ In addition, there are likely to be significant costs from convergence if institutional fit matters, as discussed earlier.

While we have more evidence on some factors than others, the evidence as a whole clearly supports the notion that institutional and market factors influence observed reporting and disclosure practices (e.g. Ball et al., 2000; Fan and Wong, 2002; Leuz et al., 2003; Haw et al., 2004).²⁵ Moreover, we have considerable evidence that reporting practices differ considerably across firms and countries, even when firms are subject to the same accounting standards, and that differences in reporting practices can be explained by differences in factors that shape firms' reporting incentives (e.g. Ball et al., 2003; Ball and Shivakumar, 2005; Burgstahler et al., 2006; Lang et al., 2006; Daske et al., 2009).

An important implication of these findings is that the role of accounting standards is much more limited in bringing about global reporting convergence than often thought. Moving to a single set of accounting standards is not enough to produce comparability of reporting and disclosure practices, even if these standards were strictly enforced in all countries. Reporting incentives continue to vary systematically across firms, industries, stock exchanges, countries, and cultural and geographic regions.

Illustrating this point empirically, the (rank) correlation between the Leuz et al. (2003) earnings management and opacity score computed from 1986 to 1995 and the same score computed from 1996 to 2005 is 0.73, which is quite high. It is even higher (0.87) when I compute the correlation between the score from 1990 to 1999 and the score from 2000 to 2005. Thus, the rank order of countries in terms of the transparency of their reporting practices remained remarkably stable from 1990 to 2005, despite many efforts to converge firms' reporting practices since the early 1990s.²⁶ In fact, when I compute a rolling 10-year earnings management and opacity score, nine (seven) out of the 10 highest (lowest) scoring countries from 1990 to 1999 are also among the 10 highest (lowest) scoring countries from 1996 to 2005, again illustrating the stickiness of firms' reporting practices (see Appendix for rankings and more details on the computation of the scores).

²⁵ The earnings management literature also supports the notion of reporting incentives. See Healy and Wahlen (1999) and Dechow and Skinner (2000).

²⁶ I recognise that, technically, countries' reporting practices can improve or converge without a change in their rank order. As a practical matter, however, this seems unlikely. I would expect the (time-series) correlation of the scores to decrease with convergence because rank order changes become more likely as countries' practices move closer together. That said, a more rigorous analysis of whether countries' reporting practices have converged in recent years is warranted and an important issue for future research.

Based on the aforementioned arguments and evidence, convergence in financial reporting practices is unlikely unless other key factors that shape firms' reporting incentives converge as well. However, convergence of many of these other factors is very difficult to achieve. Countries' enforcement systems are an important case in point. As discussed in Section 4, they differ considerably across countries and even when enforcement systems appear to be similar in design, there can be substantial differences in enforcement intensity (or practices). Eliminating these differences, especially as they pertain to countries' legal systems, is probably much harder than agreeing to a single set of accounting standards.

In summary, true convergence in reporting practices seems far away and would require a much broader convergence of countries' institutional frameworks, which is unrealistic in the near future (and probably not even desirable). This conclusion brings me to my proposal of a new approach towards global convergence of reporting practices.

5.3. A new approach to global reporting convergence: the global player segment

My proposal starts from the premise that IFRS are set to become the global accounting language but it recognises that, for the reasons discussed in the previous section, there will be considerable heterogeneity in firms' reporting practices for years to come. IFRS offer substantial discretion, like any other set of accounting standards. Moreover, the principles-based nature of IFRS implies that differences in firms' reporting incentives matter greatly for observed reporting practices. As a result, differences in countries' institutional factors are likely to remain a major source of heterogeneity in reporting practices, despite the widespread adoption of IFRS around the world (see also Ball, 2006; Nobes, 2006; Hail et al., 2009). Put differently, differences in capital markets, securities regulation, investor protection, enforcement systems and economic development, just to name a few, continue to shape firms' reporting incentives, which makes comparable reporting around the globe unlikely. Supporting this conjecture, Daske et al. (2008) provide evidence that, in many countries, mandatory IFRS adoption had little impact on market liquidity or other capital market outcomes. Moreover, they show that countries' institutional differences, including legal enforcement, play a key role for the capital market effects around IFRS adoption.

My proposal also recognises that there appears to be a substantial demand from investors, analysts and regulators for more comparable corporate reporting, especially for the so-called 'global players,' i.e. firms that operate and raise finance globally. Given this demand, I suggest a new approach that is more likely to yield comparable reporting practices for these firms than IFRS adoption alone. I propose to create a global player segment (GPS) in which participating firms use the same standards (i.e. IFRS), face the same enforcement mechanisms and are likely to have similar reporting incentives. There are two core ideas behind the proposed GPS and its approach towards reporting convergence for global players.

The first core idea is to provide comparable enforcement across participating firms. Now that IFRS have been widely adopted around the world, reporting standards are no longer the main issue.²⁷ Instead, we need to shift attention towards differences in the enforcement of reporting and disclosure rules, which are still quite pronounced. But even harmonising enforcement is not going to be sufficient. If the goal is to achieve comparable reporting, we also need to reduce differences in firms' reporting incentives. Thus, the second core idea of the GPS is to exploit self-selection by letting firms opt into the segment. The GPS would provide a way for firms to convey to market and investors that they are serious about transparency because participating firms essentially commit to tough reporting regulation and enforcement. Such a commitment through joining the GPS should be attractive to firms that have an international shareholder base, raise finance internationally, operate in many countries and hence would benefit from more comparable reporting. Moreover, for firms with substantial growth opportunities and external financing needs, a commitment to transparency is important and beneficial, particularly if they come from jurisdictions with weaker institutions. This is the central message of the cross-listing literature: firms seek such commitments and markets reward them (e.g. Coffee, 1999; Stulz, 1999; Dojige et al., 2004, 2009a; Hail and Leuz, 2009).²⁸ If the rules

²⁷ Obviously, the US is still an exception. But even if the US decides not to adopt IFRS or not to permit US firms to use IFRS, one can argue that IFRS and US GAAP are close enough so that standards are not the issue.

²⁸ Cross-listing in the US is an alternative mechanism. However, US cross-listings have been critically debated in recent years. There are concerns that private securities litigation is excessive in the US and that foreign firms may face new regulations that have been designed primarily with US firms in mind. For this debate and some evidence, see Committee on Capital Markets Regulation (2006), Dojige et al. (2008, 2009a).

and the enforcement in the GPS are strict and credible, only some firms will be willing to participate. This is an intended outcome. Self-selection is important as it implies that participating firms are likely to have relatively similar reporting incentives in the first place.

To ensure and reinforce the selection effect, firms would not automatically become part of the GPS upon application. They would have to be approved by the administrating body of the GPS. A formal approval process would allow for additional screening based on certain firm characteristics (e.g. corporate governance, ownership structure), which in turn would further reduce differences in firms' reporting incentives among participating firms.

To have global reach and appeal, the GPS has to be operated by a supra-national body. One possibility is to have IOSCO create the GPS at the global level. But in principle the proposal could also be implemented at the regional level. For instance, if the goal is to achieve greater convergence of reporting practices in the EU, CESR would be a natural body to create such a segment. Another possibility is to create a new independent body that privately operates the GPS and has an oversight board with trustees.

Membership in the GPS would be organised as a private contract between the participating firm and the administrative body operating the segment. The contract would stipulate a jurisdiction should there be a legal dispute. This private contracting solution does not involve cross-listing the participating firm's stock at a particular exchange. The advantage of this arrangement is that the GPS does not compete with stock exchanges or firms' extant listings. Thus, a firm could concentrate its liquidity and trading in one place (e.g. its home-country exchange) but still be part of the segment.

In terms of rules, the GPS could impose additional disclosure requirements beyond those in IFRS. From the viewpoint of reporting incentives, disclosures about related-party transactions, compensation policies, internal controls, risk-management practices and off-balance-sheet arrangements are particularly relevant and could be considered. Credible disclosure requirements in these areas should make the GPS less attractive to firms in which controlling insiders engage in investor expropriation and private benefit consumption. Such firms tend to have weaker reporting incentives (Leuz et al., 2003). Thus, additional disclosure requirements would have the effect of further aligning the reporting incentives of partici-

pating firms.²⁹ Similarly, the GPS could impose governance requirements that are likely to reassure outside investors with respect to the quality of corporate reporting, such as having an audit committee or having independent directors on the audit committee.

On the enforcement side, the GPS's aim would be to harmonise the enforcement of IFRS for participating firms, despite widespread differences in legal and enforcement systems around the world. Moreover, by tightening enforcement relative to what many participating firms face in their home countries, the GPS would not only align but also improve firms' reporting incentives and provide a credible commitment to transparency, which in turn would have tangible benefits. Towards these goals, the GPS would use a number of enforcement mechanisms.

First, GPS firms would be required to use a GPS approved auditor. Not all auditors would be eligible to audit participating firms. The GPS administrating body would approve audit firms. Being an approved GPS auditor would also come with certain reporting requirements for the auditor, e.g. about key events such as new staff disciplinary actions or legal actions against the audit firm. These reporting requirements could be modelled on existing rules by the US Public Company Accounting Oversight Board. Second, GPS enforcement staff would monitor the compliance with its additional disclosure (and governance) requirements. In addition, it would have the right to review firms' financial statements and disclosures as well as the right to seek further information and clarification on these documents. Firms would be required to respond to such requests for further information. Such a review would be mandatory (and not just an option) if there is no review process for financial statements in a firm's home country. Third, the GPS contract would give GPS enforcement staff the right to on-site inspections and to seize certain documents in the event of GPS staff having serious concerns about a firm's reporting practices. Fourth, the GPS would publish its enforcement actions against a participating firm. Finally, it would have the right to expel firms from the segment for non-compliance with its requirements. The last two mechanisms would essentially rely on adverse publicity and market reactions as a way to enforce GPS rules. To the

²⁹ Such requirements could also become an important tool to the extent that future IFRS become more of a political 'compromise' as more countries adopt IFRS and try to influence the standard-setting process. See Hail et al. (2009) for a discussion of the political risks in the IFRS standard-setting process.

extent that these enforcement mechanisms are viewed as insufficient, firms could be asked to post a monetary bond in an (interest-bearing) escrow account upon becoming a GPS member. This bond would be forfeit if a firm is expelled from the GPS or leaves the GPS after violating its rules. This arrangement would increase the commitment value of the GPS even further.

A key question is obviously how the operation of the GPS can be financed. Among other things, the GPS would need well-qualified enforcement staff in sufficient numbers to perform its monitoring and compliance role. Membership fees are an obvious source of funding. That is, GPS firms would be asked to pay an annual fee. Participating firms are the primary beneficiary and to the extent that the GPS provides a credible commitment to transparency, firms should receive tangible benefits (see Leuz and Wysocki, 2008). Asking participating firms to pay for GPS membership amounts to an important 'market test' and provides incentives to design and operate the GPS in a way that adds value to firms. If firms were unwilling to pay for a segment that is designed to achieve greater comparability of firms' reporting practices (and to overcome the issue of externalities), then this would be a clear sign that we need to re-think the case for global convergence of reporting practices in the first place.

However, corporate funding alone also has drawbacks. For instance, it can create conflicting interests when the time comes for the GPS staff to be tough on a particular firm. Therefore, it will be important for the GPS to have further funding sources. There are several options. First, exchanges that list GPS member firms could pay a fee as they benefit from the certification and assurance that the GPS provides. Second, audit firms that are approved to audit GPS firms could pay an annual fee. Third, some funding could come from or via the IASC Foundation as the GPS contributes to the reputation of IFRS. Fourth, the G20 have called for more progress towards global reporting convergence. If they are serious about this goal, then they should consider providing financial support to achieve it. Finally, the GPS could raise royalty fees from financial service firms that use the GPS to create new products. For instance, the GPS could ask for a licensing fee when a financial firm creates an index based on securities from firms that participate in the GPS.

6. Conclusion

This paper discusses differences in countries' approaches to reporting regulation and explores reasons why they exist in the first place and why they are likely to persist. After delineating various regulatory choices and discussing the trade-offs associated with these choices, I provide a basic framework based on the notion of institutional complementarities that helps us understand existing differences in corporate reporting and other regulation. The paper also provides descriptive and stylised evidence on regulatory and institutional differences across countries. It highlights that there are robust institutional clusters around the world.

A key message of this paper is that these clusters are likely to persist in the foreseeable future given the complementarities among countries' institutions. Another key message is that there are substantial enforcement differences around the world. An important implication of both messages is that reporting practices are unlikely to converge globally, despite widespread IFRS adoption. Nevertheless, there appears to be a strong demand for convergence in reporting practices for globally operating firms. Thus, I propose a different way forward that does not require convergence of regulatory approaches across countries. The proposal is to create a GPS, in which firms play by the same reporting rules (i.e. IFRS), face the same enforcement, and are likely to have similar incentives for transparent reporting. The GPS could be created and operated by IOSCO or other supranational institutions. The core ideas behind this segment are twofold. First, it would provide comparable enforcement across participating firms. Second, it would exploit self-selection into the segment to align participating firms' reporting incentives. The segment should be attractive to globally operating firms that have the desire to credibly signal that they are serious about their commitment to transparency.

But even if the GPS proposal is not successful, it turns the spotlight on the shortcomings of a convergence approach that relies primarily on IFRS adoption, in the face of major institutional and enforcement differences around the world. Thus, my hope is that this proposal at least contributes to a more rigorous debate about what it takes to achieve global reporting convergence.

Appendix

Transparency scores

<i>Country name</i>	<i>LNW Score 1990–1999</i>	<i>LNW Score 1996–2005</i>	<i>CIFAR Index 1995</i>
Argentina	0.371	0.391	68
Australia	0.149	0.078	80
Austria	0.862	0.808	62
Belgium	0.739	0.682	68
Brazil	NA	0.658	56
Canada	0.286	0.162	75
Chile	0.267	0.358	78
Colombia	NA	0.478	58
Denmark	0.475	0.530	75
Egypt	NA	NA	NA
Ecuador	NA	NA	NA
Finland	0.397	0.260	83
France	0.475	0.536	78
Germany	0.726	0.620	67
Greece	0.910	0.881	61
Hong Kong	0.371	0.521	73
India	0.486	0.537	61
Indonesia	0.796	0.715	NA
Ireland	0.428	0.199	81
Israel	0.367	0.329	74
Italy	0.844	0.826	66
Japan	0.856	0.802	71
Jordan	NA	NA	NA
Korea (South)	NA	NA	68
Kenya	0.765	0.693	NA
Malaysia	0.666	0.643	79
Mexico	NA	0.502	71
Netherlands	0.593	0.482	74
New Zealand	0.182	0.121	80
Norway	NA	NA	75
Nigeria	0.330	0.306	70
Pakistan	0.677	0.706	73
Peru	NA	0.464	NA
Philippines	0.372	0.552	64
Portugal	0.774	0.880	56
Singapore	0.646	0.601	79
South Africa	0.235	0.307	79
Spain	0.756	0.792	72
Sri Lanka	NA	NA	74
Sweden	0.394	0.168	83
Switzerland	0.637	0.504	80
Taiwan	0.452	0.639	58
Thailand	0.453	0.506	66
Turkey	NA	NA	58
United Kingdom	0.216	0.133	85
United States	0.115	0.228	76
Uruguay	NA	NA	NA
Venezuela	NA	NA	NA
Zimbabwe	NA	NA	72

The table provides transparency scores for the sample of 49 countries in Table 2 (if available). The first two columns present (updated) earnings management and opacity scores based on Leuz, Nanda and Wysocki (2003) (*LNW Scores*) that are computed from 1990 to 1999 and 1996 to 2005, respectively. Following LNW, the earnings management and opacity score consists of four different metrics measuring the extent to which firms' reported earnings obfuscate economic performance due to earnings smoothing and the use of reporting discretion. As a slight deviation from LNW, the

Appendix

Transparency scores (continued)

smoothing scores are first computed by firm (requiring a minimum of four firm-years) and then aggregated at the country level (which should be more accurate). I use percentage (rather than raw) ranks to aggregate the four metrics into the aggregate country score. Following LNW, I require that countries have a minimum number of firm-year observations (i.e. 500) to compute the loss aversion metric and I discard country-years with high inflation rates (above 20%) before computing the four individual metrics. The *CIFAR Index* is created by the Center for Financial Analysis and Research based on firms' 1995 annual reports. It counts the inclusion (or omission) of 90 items that fall into seven broad disclosure categories and, in each country, the index covers a minimum of three companies (see Bushman et al., 2004, for more details).

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Discussion of ‘Different approaches to corporate reporting regulation: how jurisdictions differ and why’

Ken Wild*



I think there is some good research and some good thinking, and it is an excellent paper. I do not completely agree with the paper's conclusions, particularly as regards the global positioning system (GPS), because I am not completely convinced that will work and I will say a little more about that. In terms of the conclusions, when I looked at them and thought about them and thought that I was not necessarily agreeing, I started to think through why I was not agreeing and where we parted company.

I think there is a question that should have been pursued slightly more vigorously, and that is: what do you mean by regulation? The term ‘regulation’ is used in the paper, talking about rules and enforcement. The paper refers at one stage to protection versus informing, and I think that this is something we have seen in recent months very, very strongly, coming from some countries, where I think there has been a conscious blurring of what we are talking about when we talk about regulation. The paper has referred repeatedly to financial reporting regulation, but I would just like to dig underneath and ask: what do we mean by financial reporting regulation?

It seems to me, coming back to the idea in the paper that International Financial Reporting Standards (IFRS) is a ‘language’. I think that is essentially what we are talking about. We are talking about accounting and financial reporting. I know the paper makes a distinction between the reporting rules and the practices but we are talking about accounting as being a language and how do you inform? We started in the position where we had a lot of different languages. We had languages that were not communicating. The idea of international financial reporting is around coming to a common language, and that seems to me to be a highly desirable thing to do. You will have a better understanding and greater confidence if you are

using a common language. But it is rather naïve just to think we will say: ‘Okay, we will have a common language and that will make everybody understand what everybody else is saying.’ You will not. You need some sort of standardisation.

What we are really talking about when we talk about financial reporting regulation is, as the first step, that standardisation. It is around trying to have certain words carrying the same meaning cross-border. I think where this becomes very important is when you take the paper's analysis around convergence being unachievable. The paper refers to convergence as though it is an absolute. We will never get to convergence. If you think of any language you will never get to convergence in that language. No two people will ever use the same phrase in the same way in describing something even if they are speaking the same language. What we are trying to do in financial reporting is to move to a position where we have a single language, IFRS, that we are using. Long-term we will endeavour to make that as consistent as possible.

What do I mean by consistent? I do not mean without accent; there will always be cultural, national accent to accounts, to financial reports. That is natural, and I think that is what we are seeing from some of the research into clusters, namely that you will see the accents. Where we probably are at the moment is that we have dialects. The difference between a dialect and an accent is that accents are around the way you pronounce words, the emphasis you apply, the general thrust of how you say things, but the words are broadly the same. With dialects there are words that are different. If you take the English language as used in the UK, there are regional dialect words. We are at that stage, and we need to pull that together, but we are never going to get convergence as an absolute because convergence is not an absolute in terms of language – it is a bringing-together.

The paper talks about clusters. It talks about the forces that tend to pull apart a lot of those natural

*The author is National Director of Accounting and Audit at Deloitte in the UK and is Deloitte Touche Tohmatsu's Global Leader of IFRS.

cultural and national forces, and they will pull apart. If you think of language over the last century or so, where there has been much greater communication, much greater travel, languages tend to drift together. I think there will be a natural tendency for languages to drift together, which is why we are losing, even within regions in the UK, the dialects. Those differences are tending to die out naturally, and I think that will tend to happen in terms of financial reporting.

I would draw a distinction in financial reporting regulation between the coming together in the way I am describing, the common language, which seems to me to be in everybody's interests, and the enforcement of the regulation, which is something quite different. You do need enforcement. You do need to make sure that people are not lying. You do need to make sure that people, although not lying, are not misleading. And it is that latter point that is probably the most interesting, because I do not think a lot of people out there actually lie in their accounts. There are some people, albeit a relatively small number, who try to shift the emphasis to mislead.

That is where enforcement comes in and where the role of the regulator comes in. I am not saying that IFRS financial reporting is completely different from regulation and that there is no regulatory role to it. Clearly there is a regulatory role to it, but you need to understand that language role where the pressures are different. That regulatory role has been used a number of times recently around bank regulation, around procyclicality and similar issues, to confuse what I see as the language for everyone.

As regards the GPS, that is concerned with the enforcement of everything, not the development of the language. I do not think it would work anyway; it is just too big. The paper refers to it in relation to reviewing accounts, about it having powers of access, about having sanctions. The paper talks

about sanctions including exclusion from the GPS. One of the things that sprang to my mind was: what do you mean by sanctions?

If I just look at it in terms of size, if you think what the SEC does in the US, if this was going to be done on a global basis it would have to be *that* much bigger. The paper refers to having a panel of auditors, so you have something of the size of SEC plus the PCAOB if it was on a global basis. I think it is too big.

It is not just a matter of size, I think you would hit the major problem that we already see with Europe. As soon as you see something where there are sanctions, where there is enforcement, local legislators say: 'Hang on, I do not want you enforcing that on my companies' or 'I am not going to enforce those conditions on my companies, and your approach contradicts my approach. Therefore, I am not going to let yours in without some sort of endorsement mechanism.' I think the endorsement mechanism would start producing what in the EU is called carve-outs, and that would potentially break the GPS apart. So I think it is too big for that. I think it would not work from the point of view of other legislators not accepting it. I also think it is unnecessary. You have to separate out the enforcement regulation from the standardisation. I see the enforcement regulation as being different from financial reporting. Standardisation is trying to make the language common and trying to move a common language across the world, which seems to me to be a desirable objective from every point of view including the companies' point of view.

I come back to the basic question of the conference: who should lead corporate reporting, markets or regulators? My answer to 'lead' is 'markets' – because this is about language that markets use. If I talk about 'enforcement', that would be for the regulators. The leadership derives from the markets.

The pros and cons of regulating corporate reporting: a critical review of the arguments

Robert Bushman and Wayne R. Landsman*

Abstract — In this paper, we distil essential insights about the regulation of financial reporting from the academic literature. The key objective is to synthesise extant theory to provide a basis for evaluating implications of pressures on the regulation of financial accounting following the recent financial crisis. We succinctly lay out arguments put forth both for and against the regulation of corporate disclosure and standard-setting. We then examine current developments suggesting that accounting standard-setting is at risk of becoming entangled in a web of political forces with potentially significant consequences. The crisis has brought into sharp focus the reality that the regulation of corporate reporting is just one piece of a larger regulatory configuration, and that forces are at play that would subjugate accounting standard-setting to broader regulatory demands. Recent actions by the European Commission relating to IFRS 9 and proposed legislation in the US Congress to create a systemic risk council serve to illustrate this point. We conclude by discussing in detail the recent fair value debate as a case study of the way in which bank regulatory policy and accounting standard-setting decisions were jointly determined as a potentially socially optimal means to mitigate the effects of the financial crisis.

Keywords: regulation; corporate reporting; politics

1. Introduction

History attests to the influence of crisis and scandals as an impetus for regulatory intervention by politicians (Banner, 1997; Reinhart and Rogoff, 2008). After a series of scandals in the UK in the 1990s culminating in the collapse of Barings Bank, there was a dramatic shift in the structure of financial regulation that consolidated regulation responsibilities under the auspices of the Financial Services Authority. A wave of financial scandals epitomised by the Enron debacle catalysed swift and sweeping changes to US securities regulations with the passage of the Sarbanes Oxley Act of 2002. Today, in the aftermath of the financial crisis of 2007–2009, financial accounting standard-setting finds itself drawn into the orbit of complex political processes focused on restructuring the regulation of the world's financial markets. The crisis has ignited worldwide debate on issues of systemic risk and the role played by financial regulation in creating and exacerbating the crisis. Proposals abound for how regulation of financial markets and financial institutions should be changed to mitigate the potential

for such large-scale financial meltdowns in the future. The scope of regulatory issues under debate spans many aspects of the financial system, including the alleged role played by financial accounting standards in deepening the trajectory of the crisis. The crisis has energised politicians, regulators, and economists to scrutinise financial accounting standards as never before, creating significant pressure for change (see, e.g. G-20, 2009). Given mounting momentum for potentially far reaching regulatory change, this is an opportune moment to step back and carefully consider how to organise the analysis of efficient regulatory choice.

In this paper we distil essential insights about the regulation of financial reporting from the extant academic literature in accounting, law and economics. We succinctly lay out basic arguments that have been put forth both for and against the regulation of corporate reporting. Our analysis distinguishes regulation of mandated public reporting for firms seeking to access public securities markets from the regulation of accounting standard-setting itself (Kothari et al., 2009). Although theories of regulation have typically been developed in the context of product markets, the general arguments can be specialised to issues of disclosure, and specifically to financial reporting. We extract the general arguments and link them specifically to the theory of disclosure regulation. Building on this analysis, we then bring fundamental insights from the regulation literature to bear on the current regulatory milieu.

We begin with the regulation of public reporting

*The authors are at Kenan-Flagler Business School, University of North Carolina.

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Correspondence should be addressed to: Professor Robert Bushman, Kenan-Flagler Business School, The University of North Carolina, CB #3490, Chapel Hill, NC 27599–3490, USA. E-mail: Bushman@unc.edu.

for firms seeking to access public securities markets. A longstanding literature analyses whether disclosure should be mandated by government regulation, or whether firms, supported by their own reputation, gatekeepers, private lawsuits, and market discipline, have adequate incentives to disclose voluntarily information at socially optimal levels. Arguments in favour of regulation typically depend on the existence of market failure. For example, regulation can reduce enforcement costs, redundancies in information production, and opportunistic behaviour, or can mitigate failure linked to externalities where firms do not fully internalise the consequences of their disclosure decisions. However, while markets may be imperfect, so is government. Thus, it is important to avoid the Nirvana Fallacy in which regulation is justified by comparing imperfect market outcomes against outcomes deriving from imaginary governmental institutions that are competent, benevolent, and in possession of perfect information (Demsetz, 1969). It is also crucial to recognise that one size is unlikely to fit all. Countries differ in many respects, including political and legal regimes, institutional development, corruption and culture. Research documents significant cross-country variation in securities regulations, the structure of financial regulatory regimes, and observable properties of reported accounting numbers. This literature raises serious questions about whether true harmonisation of financial reporting across the world is an achievable objective.

A central element of regulation of financial disclosure is the regulation of accounting standard-setting. Little extant empirical literature directly addresses the regulation of standard-setting. Kothari et al. (2009) provide a useful discussion of issues related to the regulation of standard-setting. Positing that the objective of accounting standard-setting is to promote the efficient allocation of capital, the authors conclude that competition between standard-setting organisations is likely to be the most effective means of achieving this objective. The authors are pessimistic that a single global standard-setter such as the IASB can survive and succeed over the long run. After succinctly summarising the analysis of that study, we discuss its conclusions in relation to current developments, including the European Union's (EU) recent decision to postpone acceptance of International Financial Reporting Standard 9 (IFRS 9).

As noted above, one of our main objectives is to place our discussion of regulation in the context of the post-crisis period. There appears to be strong sentiment from many quarters that the crisis was

deepened by excessive deregulation in previous decades, necessitating a strong countervailing regulatory response now. With respect to accounting standards in particular, the Financial Stability Forum (FSF, 2009) and the US Treasury (2009) strongly recommend that both the FASB and IASB re-evaluate fair value accounting, accounting for loan losses, and hedge accounting, among others issues. The crisis has brought into sharp focus the reality that the regulation of corporate reporting is just one piece of a larger regulatory configuration, and that forces are at play that would subjugate accounting standard-setting to other regulatory demands. The subordination of financial accounting to the demands of the prudential regulation of financial institutions carries significant danger of unintended consequences. Care must be taken not to undermine the primary role of financial accounting information in promoting corporate transparency to support market discipline and capital allocation. We discuss potential consequences of recent political pressure on the FASB and IASB with respect to important issues such as market discipline of banks and regulatory forbearance at troubled banks. Further, we discuss current developments in the ongoing debates on the future of financial regulation, including recent discussion in the US Congress to transfer oversight of accounting standards from the SEC to a systemic risk council charged with preserving the soundness of the banking system.

Our second objective is to isolate issues for future research. In this spirit, we conclude the paper with an illustration considering the role that corporate reporting plays in the regulation of financial institutions. We focus on interactions between the regulations governing regulatory capital levels at banks and accounting for asset impairments. We implement a case study of recent changes in US reporting rules that allow banks substantial discretion in allocating losses on impairment write-downs between the income statement and other comprehensive income. Our objective is to facilitate debate on the trade-offs between the regulation of corporate reporting and bank regulation as alternative means to aid in the prudential oversight of banks by discussing in detail the way in which bank regulatory policy and accounting standard-setting decisions were jointly determined as a potentially socially optimal means to mitigate the effects of the financial crisis of 2007–2009.

In this paper we provide a big picture synthesis of issues. Several recent studies provide comprehensive discussions of the extant research on the regulation of financial reporting. First, Leuz and Wysocki (2008) provide a comprehensive survey of

research on the economic consequences of financial reporting and disclosure regulation. Also, Kothari et al. (2009), as part of a larger discussion on what GAAP should look like, provides an in-depth discussion of the origin and consequences of regulating standard-setting. The interested reader is referred to these for more extensive analyses and comprehensive reference lists.

The rest of the paper is organised as follows. Section 2 discusses the case for mandatory disclosure, and Section 3 addresses the regulation of standard-setting. Section 4 applies insights from Sections 2 and 3 to consider issues of political involvement in financial reporting regulation in the aftermath of the financial crisis. Section 5 presents a textured discussion of recent developments in fair value accounting to explore potential trade-offs between the regulation of corporate reporting and bank regulation as alternative means to aid in the prudential oversight of banks. Section 6 offers concluding remarks.

2. The case for mandatory disclosure

Should regulations be imposed that require mandated public disclosure by firms seeking access to public securities markets? Is market discipline of firms supported by contracts and impartial courts sufficient to generate socially optimal levels of disclosure, or do market failures exist that require government regulation? Are regulators sufficiently competent, motivated, independent and in possession of sufficient information to be entrusted with power to intervene in markets? These basic questions have been the subject of significant debate in the academic literature, much of it driven by law and economics scholars wherein the question of mandatory public disclosure is typically embedded in the larger issue of the role of securities laws and whether securities markets should in general be regulated.¹ This extant literature provides a useful backdrop against which to evaluate issues pertinent to the present environment. We begin with a brief overview of key theories, and then turn explicitly to disclosure regulation.

We first introduce the public interest theory of regulation followed by the classic critique of this theory generally associated with the Chicago School of Law and Economics. Our discussion follows Shleifer (2005). The public interest, or helping-hand, theory of regulation typically associated with Pigou (1938), has provided intellectual support for the growth of regulation in the 20th

century. This theory takes the position that unregulated markets are subject to serious market failures (e.g. externalities), and that competent, benevolent governments can correct such failures through regulation. That is, there exist important market failures and the government can help.

The 'Chicago' critique of public interest theory proceeds in three basic steps. First, competition in the marketplace and private orderings (the coming together of non-governmental parties in voluntary arrangements) significantly mitigate market failures, obviating most of the need for government intervention in markets. Next, where competition and private orderings do not adequately address market failures, contracts supported by impartial courts and the enforcement of tort rules resolves remaining market failure issues (Coase, 1960). In the absence of unresolved market failures, regulation is undesirable. These arguments rely on courts being motivated, unbiased, informed, and incorruptible. Finally, capture theory (Stigler, 1971; Posner, 1974) basically questions public interest theory's main assumptions that governments are benevolent and competent. This theory contends that regulators are often captured by those whom they are charged to regulate, and even if the regulator is independent and wants to 'do good' by acting in the public interest, they are generally incompetent and likely to fail. Capture theory often models regulators as self-interested agents that seek to maximise their own welfare with their primary concern being their own wealth and power (Peltzman, 1976). Thus, even if a market failure exists, capture theory is sceptical that government intervention is the solution. To avoid the Nirvana Fallacy, a case has to be made that regulation would in fact achieve better outcomes than the status quo or a market-based solution.

We next apply these general arguments about regulation specifically to the theory of disclosure regulation. We proceed by first discussing the extent to which fundamental forces of market discipline can generate optimal levels of disclosure in the absence of regulation, and then examine where these forces break down to potentially create scope for regulation. Issuers of public securities face a competitive capital market populated by sophisticated investors. Firms concerned with maximising their value therefore have powerful incentives to disclose all available information to obtain higher prices, because failure to disclose would cause investors to assume the worst (Grossman, 1981; Milgrom and Roberts, 1986). That is, in the absence of disclosure, sceptical market participants would assume that the firm is hiding bad news and bid

¹ For example, see Coffee (1984), Easterbrook and Fischel (1984) and Mahoney (1995).

down the price of the firm's securities accordingly. Credibility of such disclosures can be supported by reputational, legal, and contractual penalties for misreporting, and low cost verification of accuracy. When verification is costly, firms can utilise reputational intermediaries such as auditors, underwriters, or credit rating agencies that can credibly certify the quality of the firm's securities. Arguments based on competition for capital and private orderings supported by impartial courts and contracts have been used to support the contention that market forces alone can largely ensure the optimal level of voluntary disclosure by firms.

The arguments above focus exclusively on the firm-specific benefits of disclosure; however, marketwide effects should also be considered. Firms may be unwilling to disclose voluntarily information that reveals proprietary information to their competitors (Verrecchia, 1983). Such decisions are rational from the firm-specific perspective, but do not incorporate potential economy-wide benefits. For example, such disclosures can facilitate the allocation of capital to the highest value projects and promote competition among firms that can promote productivity improvements and price competition that benefits consumers. Even in the absence of proprietary costs, firms may not fully internalise all the costs and benefits of their disclosure decisions, leading to over- or under-production of public information. For example, disclosures by one firm may also reveal information about other firms, where the disclosing firm does not benefit from the information transfer, and may as a result under-produce information (Admati and Pfleiderer, 2000).

A number of marketwide benefits of disclosure have been proposed. For example, Lambert et al. (2007) show how disclosure by individual firms can have system-wide benefits by allowing investors to better assess the covariance of pay-offs across firms and thus lower the cost of capital. Firm-specific disclosures can also have marketwide benefits by reducing aggregate expenditures on information production as firms are probably the lowest cost producer of corporate information and such disclosure can eliminate the duplicative information collection efforts by capital market participants (Coffee, 1984; Easterbrook and Fischel, 1984).

The issue of information externalities and regulation is clearly demonstrated by recent proposals to require that financial institutions disclose additional information to serve as input into an infrastructure designed to measure and manage systemic risk. In competing for profits, an entity will choose risk levels and make financial disclosures consistent

with its shareholders' demands, without necessarily considering consequences for the financial system as a whole. As a result, new legislation is proposed that would compel certain entities to provide information to a systemic risk regulator regarding their assets, liabilities, holdings, leverage, collateral, liquidity, counterparties and aggregate exposures to key financial variables and other risks. Interestingly, these proposals recognise the proprietary nature of such information, and allow that aggregate risk transparency must be balanced against preservation of the intellectual property of individual institutions, suggesting that perhaps information should first be released privately to regulators, delaying public disclosure long enough to mitigate competitive concerns.²

Finally, in considering disclosure regulation, it is likely that one regulation solution will not fit all countries. Countries differ in many respects including political and legal regimes, institutional development, corruption and culture. Djankov et al. (2003) present an enforcement theory of regulation that recognises that all strategies for social control of business, including market discipline, courts, regulation and government ownership, are imperfect, and that optimal institutional design involves a choice between imperfect alternatives. Enforcement theory focuses on a basic trade-off between two social costs: disorder and dictatorship. Disorder is the ability of private agents to harm others by stealing, cheating, overcharging, etc., where dictatorship refers to the ability of the government to impose such costs on private agents. Recognising that this trade-off can differ significantly across countries helps organise analysis of efficient institutional choice by recognising both the needs of a particular environment and the constraints imposed by a country's political and institutional structures. Shleifer (2005) applies this framework to the regulation of securities markets, positing that private enforcement of public rules may emerge as an efficient strategy of social control of these markets.

Extant research documents significant differences across countries in regulatory outcomes including: differences in securities laws and the balance between private and public (e.g. the Securities and Exchange Commission (SEC)) enforcement of such laws (La Porta et al., (2006); bank regulation (Barth et al., 2006); models for allocating regulatory powers (Gadinis and Jackson, 2007); enforcement of securities laws (Coffee,

²For example, Squam Lake Working Group on Financial Regulation (2009) and Lo (2009).

2007; Jackson and Roe, 2008); and observed accounting regimes (Ball et al., 2000; Leuz et al., 2003; Bushman et al., 2004; Lang et al., 2006). This literature raises serious questions about whether true harmonisation of financial reporting across the world is an achievable objective. We return to this topic in the next section.

3. Regulation of accounting standard-setting

Little extant empirical literature directly addresses the regulation of standard-setting and there exists no clear consensus on why generally accepted accounting principles (GAAP) is regulated. As part of a larger discussion on the forces that shape GAAP, Kothari et al. (2009) (hereafter 'KRS') provide a comprehensive discussion of issues related to the regulation of standard-setting. In what follows, we succinctly summarise the KRS analysis, and discuss its conclusions in relation to current developments in the regulation of accounting standard-setting.

KRS posits three theories for the regulation of accounting standards: public interest theory, capture theory and the ideology theory of regulation. Given that our discussion in the previous section addresses both the public interest and capture theories of regulation, we focus here on the ideology theory of regulation. It represents perhaps the most novel aspect of the KRS analysis and serves as a useful framework within which to discuss current regulatory issues.

The ideology theory of regulation relies on the existence of market failures much like public interest theory, but goes beyond public interest theory in allowing a role for special-interest lobbying in influencing the actions of regulators. Regulators are viewed as possessing political ideologies, and regulatory outcomes derive from the interactions of political ideologies with interest-group lobbying efforts. Lobbying is not viewed as an explicit form of bribery, but rather as a mechanism through which regulators are informed about policy issues. Interest groups lobby regulators to convey their specific knowledge about the issues being regulated.

KRS then applies ideology theory to standard-setting, contending that if accounting standards are assumed to be non-excludable in nature, then the underproduction attributable to externalities predicts that a private market for accounting standards would fail.³ This creates the rationale for regulation of standard-setting. Regulators have ideologies

(e.g. fair-value accounting), but are receptive to lobbying efforts from constituents (e.g. comment letters) or from politicians allied with constituents. Ideology theory makes no prediction on the optimality of regulation as the effectiveness of regulation depends on regulators' political ideologies and the impact of special-interest lobbyists.

KRS notes that if the ideology theory is the correct model, it becomes crucial to design a standard-setting institution that minimises the effect of idiosyncratic ideologies and special-interest lobbying. The authors view competition among standard-setters as a key mechanism in achieving this objective (see also Dye and Sunder, 2001 and Sunder, 2002). Competition across standard-setters would promote competition among ideologies and prevent an idiosyncratic ideology from dominating. However, this argument presumes that different standard-setting bodies are endowed with different ideologies. But, ideologies come from somewhere, and the forces that underpin the endogenous formation of an ideology could lead all standard-setting bodies to arrive at the same ideology, reducing any role for competition (Power, 2010).

For example, if one views fair value accounting as an ideology, a case could be made that both the FASB and IASB have adopted it with equal enthusiasm. To the extent that competing standard-setters share the same ideology, the KRS argument in favour of competition is substantially weakened.

Consider the consequences of maintaining two standard-setters that share identical ideologies. Given the realistic premise that optimal accounting standards evolve through a process of hit or miss, where any given standard-setting decision is likely to be imperfect, the existence of two standard-setters may result in two different, imperfect standards prevailing simultaneously. That is, no discipline over ideology is achieved, but rather two idiosyncratic standards emerge based on exactly the same ideology. Is this outcome desirable? It is not clear, as there are substantive trade-offs involved. On the one hand, the existence of competing standards means that comparability in financial reporting across firms is sacrificed. On the other hand, if it is the case that optimal standards are ultimately arrived at by learning through experimentation, allowing for two different standards may enhance the speed of convergence to an optimal standard as two live standard-setting experiments can be run simultaneously.

KRS offers two other related reasons for predicting that competition rather than convergence in accounting standards will persist. The first relies on

³ Non-excludability refers to the situation where non-paying market participants cannot be excluded from the benefits of privately developed GAAP.

the evidence, discussed above in Section 2, that there is substantial cross-country variation in political and legal regimes, securities law, enforcement budgets, regulatory configurations and culture, among other aspects. Thus, KRS concludes that it is unlikely that a single set of global accounting rules will actually generate worldwide conformity in accounting practice and efficient capital allocation decisions. Second, there is also evidence of political interference in standard-setting, both in the US and internationally (Watts and Zimmerman, 1986; Zeff, 2005a, 2005b; Ramanna, 2008). We believe that these arguments provide a useful lens through which to view current developments in the regulation of accounting standard-setting. In the aftermath of the financial crisis, evidence is emerging of significant political involvement in the standard-setting process.

For example, despite starting as a joint initiative to reconsider the accounting for financial instruments, the FASB and IASB have so far reached fundamentally different conclusions as the two boards have been pulled in different directions by political forces in Europe and the US (PwC, 2009). For example, the FASB proposes that fair value accounting be used for all financial instruments, including bank loans (FASB, 2009d), where in proposed IFRS 9, the IASB allows for certain loans to be accounted for on an amortised cost basis. For loans accounted for at amortised cost, the IASB is exploring an expected loss approach where expectations of future losses over the life of a loan are incorporated *ex ante* into effective interest rates (IASB, 2009).⁴

In another interesting development, the European Commission (EC) recently announced that it will not endorse fast-track assessment of the first stage of IFRS 9, *Financial Instruments*, the IASB's proposed standard on financial instruments. This action calls into question the reality of a single method for comparing company accounts across borders any time soon. A recent *Financial Times* article notes that this voting pattern at the EC is evidence that the IASB has failed to reconcile an ideological schism in Europe. The article states that among the French, Germans, Italians, the European Central Bank and European regulators who voted to postpone introduction of IFRS 9, there are those

who believe the rules should be another tool to ensure economic and financial stability.⁵ Finally, a similar political trend is evident in the US where law-makers in the House of Representatives considered an amendment to give a new systemic risk council the power to change an accounting standard it has judged a threat to the financial system. The council would have the power to override the SEC, which currently has final say over accounting rules.⁶ Although this particular amendment ultimately failed, it is illustrative of the extent to which political forces within a given economy can potentially alter the accounting regime and work against the possibility of convergence across economies.

We expand on these issues further in the next section, where we discuss politics and financial reporting regulation in the wake of the financial crisis to explore further the role of political involvement in standard-setting.

4. Politics and financial reporting regulation in the wake of the financial crisis

As discussed above, there is an inherently political aspect to standard-setting. There will always be tension between free market and political forces driven by the will to power and the demands of influential constituent groups. The meltdown of many important financial institutions and the ensuing economic recession has generated a political thirst for regulatory change that threatens to alter vastly the regulation of financial markets, including the regulation of accounting standard-setting. Much of the interest is centred on the issue of fair value accounting, which many believe exacerbated the crisis.

In our earlier discussions above, we noted the distinction between firm-specific and marketwide effects of disclosure. The regulatory debate on fair value accounting considers that fair value accounting can have aggregate consequences for the financial system as a whole that are not internalised by individual institutions. Several influential papers describe dynamics by which fair value accounting can drive contagion effects and amplify balance sheet changes, which in turn drive pricing patterns in financial assets that amplify financial cycles (Plantin et al., 2008a, 2008b; Adrian and Shin, 2009). As the financial crisis unfolded, significant pressure was brought to bear on the FASB and IASB to relieve some of the perceived pressure on balance sheets deriving from fair value accounting.

⁴ There appears to be a lack of consensus among investment professionals whether the FASB or IASB approach to accounting for financial instruments provides the best model. See JP Morgan, *Accounting Issues*, 8 January 2010, for a summary of findings of the *CFA Institute Survey on Proposed Financial Instrument Accounting Changes and International Convergence*.

⁵ 'Europe's schism threatens global accounting rules' by Rachel Sanderson, FT.com, 16 November 2009.

⁶ 'US house panel to mull accounting oversight change', by Jessica Holzer, Dow Jones Newswires, 16 November 2009.

Indeed, both the IASB and FASB did respond to such political pressure by offering more flexibility in the classification of securities across portfolios, in valuation methodology, and in the split of fair value changes between the income statement and owners' equity (we describe such changes in detail in Section 5 below).

An important issue here is whether such political pressure in essence resulted in accounting discretion being exploited to allow regulatory forbearance that delayed intervention by bank regulators in the hope that things would turn around. The notion that bank regulation should impose prompt corrective actions (PCA) has long been part of bank regulatory discussions and is imbedded both in the Basel I Accord and in the US Federal Deposit Insurance Corporation Improvement Act of 1991. To what extent did these accounting concessions run counter to PCA? Accounting discretion can affect regulatory forbearance in several ways. First, it can operate through the channel of capital adequacy requirements. By allowing banks increased discretion in classifying securities across portfolios, valuing financial instruments, and putting fair value changes directly to owners' equity (therefore excluding these changes from capital calculations), such concessions may allow essentially insolvent banks to continue operating. A second channel potentially operates through the market discipline of banks' risk taking by outside investors. Rochet (2005) posits that an important role for market discipline in the prudential oversight of banks is its ability to limit the scope for regulatory forbearance by regulators. The issue here is that the increase in politically driven discretion granted to financial institutions during the crisis may have weakened market disciplinary forces by reducing bank transparency, making it more difficult for outside investors to assess the underlying risk of banks.

It is also important to consider that recent proposals by the Financial Stability Forum (FSF, 2009) and the US Treasury (2009) strongly recommend that the FASB and IASB re-evaluate the incurred loss model underlying current loan loss provisioning requirements and consider a range of alternative approaches. The premise of these proposals is that loan loss accounting should adopt a more forward looking orientation that allows for recognition of future expected loan losses earlier in the credit cycle, which in turn could potentially dampen pro-cyclical forces in periods of financial crisis.⁷ However, as has long been recognised (e.g. Watts and Zimmerman, 1986), accounting discretion is a double-edged sword. On the one hand, increased discretion can facilitate incorporation of

more information about future expected losses into loan provisioning decisions, but on the other hand it increases potential for opportunistic accounting behaviour by bank managers, which may degrade the transparency of banks and lead to negative consequences.

Several recent studies empirically address the important issues of discretion, bank transparency and market discipline. Bushman and Williams (2009) empirically delineate economic consequences associated with differences in accounting discretion permitted to banks under existing regulatory regimes. The study exploits cross-country variation in loan provisioning practices to generate country-level measures of discretion allowed to banks within a given country. Key findings are: (1) There is no evidence that banks in high discretion countries impound more forward-looking information in loan provisions relative to banks in low discretion countries; (2) Sensitivity of changes in bank leverage to changes in asset volatility is lower in high discretion regimes relative to low discretion regimes; and (3) Banks in high discretion regimes exhibit more risk shifting relative to banks with less discretion.⁸ These results are consistent with discretion degrading transparency of banks and weakening discipline exerted over bank risk taking.

Huizinga and Laeven (2009) examine accounting discretion by US banks during the 2007–2008 time frame, documenting that banks used discretion to overstate the value of distressed assets, and that banks with large exposures to mortgage-backed securities provisioned less for bad loans. Also, Vyas (2009) constructs a novel measure of financial reporting transparency that compares the timing of asset write-downs in US financial institutions' financial statements relative to the timing of losses reflected in the appropriate benchmark index for each asset class. Vyas (2009) documents that during the period 2006–2008, the ultimate loan losses experienced by a bank were anticipated in stock prices on a timelier basis for banks where the timing of asset write-downs more closely matched the timing of changes in index prices.

We now turn to the final analysis of the paper where we present a textured illustration that considers the role that corporate reporting plays in

⁷ Financial Stability Forum (FSF, 2009) defines pro-cyclicality as the dynamic interaction between the financial and the real sectors of the economy that amplify business cycle fluctuations and cause or exacerbate financial instability. See also Dugan (2009).

⁸ Risk shifting refers to the phenomenon where banks' equity holders benefit themselves at the expense of deposit insurers by increasing the risk of asset portfolios without adequately increasing bank capital simultaneously.

the regulation of financial institutions. We implement a case study of recent changes in US reporting rules that allow banks substantial discretion in allocating losses on impairment write-downs between the income statement and other comprehensive income. Our objective is to facilitate debate on the trade-offs between the regulation of corporate reporting and bank regulation as alternative means to aid in the prudential oversight of banks by discussing in detail the way in which bank regulatory policy and accounting standard-setting decisions were jointly determined as a potentially socially optimal means to mitigate the effects of the financial crisis of 2007–2009.

5. Recent developments discussed

In the US the SEC has statutory authority to set financial reporting requirements for US firms that trade securities across interstate lines. With the issuance of Accounting Series Release 150 (SEC, 1973), the SEC effectively delegated accounting standards-setting to the Financial Accounting Standards Board (FASB), which was established as a private-sector standard-setting body that relied on voluntary funding to support its activities. The FASB remained privately funded until passage of the Sarbanes-Oxley Act of 2002, which includes provisions that provide mandatory funding for FASB, prohibits private contributions, and requires the SEC to approve the FASB's annual budget.⁹ To date, the FASB has issued seven Concepts Statements, in which it develops broad accounting concepts, and 168 Statements of Financial Accounting Standards (SFASs) for financial reporting. It also provides guidance on implementation of standards, including FASB Staff Positions (FSPs) and FASB Interpretations (FINs).

The International Accounting Standards Board (IASB) was incorporated in 2001 as a successor body to the International Accounting Standards Committee (IASC). The IASB is an independent standard-setting board that is publicly accountable to a monitoring board of capital market authorities.¹⁰ It receives funding from the private sector, including mandatory levies on listed and non-listed

entities in countries that utilise its standards. The IASB issues International Financial Reporting Standards (IFRSs), which include standards issued not only by the IASB but also by the IASC, some of which have been amended by the IASB. Since 2001, over one hundred countries have required or permitted use of IFRSs for financial reporting by companies in their jurisdictions. Beginning in 2005, the EU requires adoption of IFRSs for listed companies.

A key development in standard-setting in the past decade has been coordination between the FASB and IASB in the development of accounting standards. Coordination began in September 2002, when the FASB and IASB issued their so-called Norwalk Agreement, in which they agreed to make their existing financial reporting standards fully compatible 'as soon as is practicable' and to coordinate their future work agendas to ensure that compatibility is achieved and maintained. In 2005, the FASB and the IASB reaffirmed their commitment to the convergence of US GAAP and IFRSs, with a stated goal that development of a common set of high quality global standards is the long-term strategic priority of both boards.

In February 2006 the FASB and IASB issued a Memorandum of Understanding that describes the relative priorities within the FASB–IASB joint activities in the form of specific milestones to be reached by 2008. That Memorandum was based on the principles that convergence of accounting standards can best be achieved through the development of high quality, common standards over time, and that investors' needs are best met by the boards seeking convergence by replacing standards in need of improvement with jointly developed new standards. Based on the progress achieved by the boards throughout 2007 and other factors, the SEC issued a Final Rule (SEC, 2007) permitting non-US firms that apply IFRS as issued by the IASB to file financial statements with the SEC without reconciliation to US GAAP. The rationale underlying the SEC's decision is the belief that IFRS-based financial statement information has become sufficiently comparable to US GAAP-based information so as to render the reconciliation requirement unnecessary.

Despite the fact that the SEC permits non-US firms to file financial statements based on IFRS, the SEC still requires US firms to file financial statements based on US GAAP. Consistent with the

⁹ In effect, the provisions of the Sarbanes-Oxley Act that relate to the FASB changed the Board from a private-sector standard-setting body to one that is quasi-governmental. Not only does the FASB rely on public funding to operate, but it also is subject to an annual audit by the SEC. Understanding why the regulatory structure of accounting standard-setting changed with passage of Sarbanes-Oxley is an interesting question worthy of study in its own right.

¹⁰ The monitoring board includes the Emerging Markets and Technical Committees of the International Organization of Securities Commissions (IOSCO), the Financial Services

Agency of Japan (JFSA), and the US Securities and Exchange Commission (SEC). The Basel Committee on Banking Supervision participates in the monitoring board as an observer.

SEC's stated desire for firms to use a single set of high quality accounting standards, in November 2008, the SEC issued a proposed rule, 'Roadmap for the Potential Use of Financial Statements Prepared in Accordance with International Financial Reporting Standards by US Issuers' (SEC, 2008), that would require US firms to apply IFRS. In February 2010, the SEC issued a statement confirming its commitment to the roadmap (SEC, 2010). From a regulatory standpoint, the impact on US banks if US firms were required to issue financial statements based on IFRS instead of US GAAP is difficult to predict. However, differences between IFRS and US GAAP, at least in the short run, could affect the way in which bank regulatory capital is calculated.

5.1. Institutional environment: banking regulation

The Basel Committee, comprising representatives from central banks from around the world, promulgates international banking rules. The so-called Basel Accords, passed in 1988, provided for a set of minimal capital requirements for banks in countries covered by the Accords. The Basel Accords were extended by Basel II in June 2004. Basel II is an international standard that banking regulators are to use when creating capital requirement regulations of member banks to mitigate the effects of financial and operational bank risks on the stability of the world-wide banking and financial system. Basel II rests on three 'pillars': (1) maintenance of minimum capital requirements; (2) supervisory review; and (3) market discipline.

Under the first pillar, bank regulatory capital is calculated to reflect the effects of credit risk, operational risk, and market risk. The initial Basel Accords only considered credit risk. The second pillar gives bank regulators more authority than was provided in the initial Basel Accords to review the risk management practices of member banks. For example, if a bank has poor internal controls or a poor system of corporate governance, the second pillar provides that the bank supervisor can impose a pillar two capital 'add on' that results in the bank having to meet a more stringent capital requirement. The third pillar requires that bank activities be transparent to investors and creditors by publicly releasing financial statements in a timely manner. As a result, bank equity investors, depositors, and other creditors can better evaluate a bank's financial condition and thereby impose market discipline on the bank and, more generally, in the financial markets.

Financial reporting and bank regulation intersect at all three pillars. Beginning with the first pillar, the

Basel Accords' primary measure of a bank's financial health, Tier 1 capital, is directly affected by the way in which financial statement amounts are measured. Tier 1 capital is comprised of core capital, which consists primarily of contributed capital and retained earnings, but it may also include non-redeemable, non-cumulative preferred stock. The Tier 1 capital ratio, which is the ratio of Tier 1 capital to risk-adjusted assets, cannot generally fall below 6% for a bank to be considered well capitalised.¹¹ Tier 1 capital generally excludes goodwill and intangible assets, and unrealised gains/losses on financial instruments measured at fair value that are not included in retained earnings. Thus, a particular country's approach to measurement and recognition of financial assets (e.g. amortised cost vs. fair value for debt securities) as well as the way in which gains/losses are recorded (i.e. whether particular gains/losses are included as part of retained earnings or accumulated comprehensive income) affect the way Tier 1 capital is calculated.¹²

The third pillar also directly collides with financial reporting. Market discipline depends on financial reporting transparency, which enables bank equity holders, depositors, and other providers of debt capital to monitor bank financial health and make investment decisions that can affect bank capital. For example, if depositors observing a decline in a bank's capital adequacy ratios determine their investments are at risk, they can take action to minimise their risk exposure, including withdrawal of deposits, which can further reduce bank capital.

The extent to which bank regulators can rely on market discipline to ensure the health and stability of the banking and financial system depends critically on the degree of financial reporting transparency.¹³ Adoption of IFRSs by the EU and other countries around the world has been generally viewed as resulting in greater financial reporting transparency,¹⁴ although cross-country differences

¹¹ In the US, the Tier 1 capital ratio must be at least 4% for a bank to be considered adequately capitalised and thereby avoid having to face regulatory intervention.

¹² Regulatory capital is also affected by the way in which bank regulators in a particular country apply so-called 'prudential filters', i.e. the specific adjustments regulators make when calculating regulatory capital. Examples include whether to neutralise pension surpluses (recognised pension assets) or gains/losses associated with the fair value option under IAS 39. See CEBS (2007) for further discussion.

¹³ For further discussion and analysis, see CEBS (2009).

¹⁴ Findings from academic research also support the notion of greater transparency for firms applying IFRS relative to when they applied domestic accounting standards. See, e.g., Barth et al. (2008) and Daske et al. (2008).

in incentives, enforcement, and attestation can affect differences in the degree of transparency arising from application of IFRS (Ball et al., 2000, 2003; Leuz et al., 2003).

Of course, adoption of IFRS can also result in an unintended reduction in transparency as well as have Pillar 1 effects. For example, IAS 39 (IASB, 2003) presently adopts an incurred loan loss-provisioning model.¹⁵ Expected losses as a result of future events, no matter how likely, may not be considered. In contrast to the IAS 39 approach, Spanish accounting standards adopt a statistical or 'dynamic' provisioning approach under which loan loss provisions are determined based on losses that have already been incurred but which cannot be assigned to a specific transaction. Thus, dynamic provisioning is, in principle, more sensitive to risk and loan portfolio growth decisions, and, in principle, allows for an earlier detection of credit losses building up in the banks' loan portfolio. Adoption of IFRS by Spain not only eliminated dynamic provisioning, but possibly also resulted in a reverse write-down of general loan loss provisions at transition to IFRS. Whether investors find Spanish bank financial statements more useful for decision-making when IFRS is applied, and whether therefore market discipline is increased, is therefore not obvious.

Discussion of Spanish loan loss provisioning also provides a useful illustration of the way in which financial reporting and the second pillar of Basel II overlap. For example, Pillar 2 includes a Supervisory Review Process that requires banks to have their own internal processes to assess their capital needs, and for the regulators to evaluate each bank's overall risk profile to ensure that each holds adequate capital. To the extent that Spanish banks' movement away from a dynamic provisioning model affects their ability to assess their own capital needs, Spanish bank regulators cannot rely as heavily on the bank's internal risk assessments and therefore have to expend more resources to make their own assessment of each member bank's risk profile.

5.2. Fair value accounting and the financial crisis

In the US the FASB has two primary standards that mandate recognition of accounting amounts using fair values: SFAS No. 115, *Accounting for certain*

investments in debt and equity securities (FASB, 1993) and SFAS No. 133, *Accounting for derivative instruments and hedging activities* (FASB, 1998). SFAS No. 115 requires recognition at fair value of investments in equity and debt securities classified as held for trading or available-for-sale.¹⁶ Fair value changes for the former appear in income, and fair value changes for the latter are included as a component of accumulated other comprehensive income, i.e. are excluded from income. SFAS No. 133 requires all freestanding derivatives be recognised at fair value. However, fair value changes in those derivatives employed for purposes of hedging cash flow risks (e.g. cash flow volatility resulting from interest rate risk and commodity price risk) are shown as a component of accumulated other comprehensive income.

The rough equivalent to the FASB's fair value standards issued by the IASB is IAS 39, *Financial Instruments: Recognition and Measurement* (IASB, 2003). IAS 39 effectively has the same accounting treatment of investments as set out in SFAS 115, except that it delineates a fourth category of investments, loans and receivables for which there are no active markets from which to obtain quoted prices. Such securities are recognised at amortised cost. Both the FASB and IASB also have issued so-called fair value option standards that permit financial statement preparers to account for most financial assets and liabilities at fair value on an instrument-by-instrument basis.¹⁷ A goal in issuing such standards was to address the problem of income volatility arising from determining income using a mixed attribute model, under which some items are measured at amortised cost and others at fair value.

In 2006 the FASB issued SFAS 157, *Fair Value Measurements* (FASB, 2006). SFAS 157 provides a definition of fair value as exit value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. The FASB defines 'fair value' as 'the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.' As the standard notes, 'the objective of a fair value measurement is to determine the price that would be received to sell the asset or paid to transfer the liability at the

¹⁵ The IASB is currently considering adoption of an expected loss model for loan loss provisioning. Such an approach would be forward-looking in contrast to the incurred loss approach.

¹⁶ Held-to-maturity securities, a third category of investments, are recognised at amortised cost.

¹⁷ SFAS No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities – Including an Amendment of FASB Statement No. 115* (FASB, 2007), and IAS 39, *Financial Instruments: Recognition and Measurement – The Fair Value Option* (IASB, 2005).

measurement date (an exit price).¹⁸ Implicit in the FASB's focus on exit value as a measure of fair value is the notion that an asset or liability's exchange price fully captures its value. The FASB recognises that active markets may not always exist for a specific asset or liability, and therefore develops a hierarchy of preferences for measurement of fair value. The preferred Level 1 fair value estimates are those based on quoted prices for identical assets and liabilities, and are most applicable to those assets or liabilities that are actively traded (e.g. trading investment securities). Level 2 estimates are those based on quoted market prices of similar or related assets and liabilities or those derived from or corroborated by observable market data by correlation or other means. Level 3 estimates, the least preferred, are those based on company estimates, and should only be used if Level 1 or 2 estimates are not available.

During the Financial Crisis of 2007–2008, there was a virtual collapse in trading of financial instruments in many markets, particularly those relating to mortgages and credit-related receivables. As a result, financial institutions worldwide saw their assets suffer permanent losses in value, and therefore were forced to take historically large asset write-downs. These events caused the FASB and IASB and fair value accounting to be drawn into the spotlight. Critics of fair value accounting, in general, and SFAS 157, in particular – notably bank managers – contended that the resulting impairment charges for bank assets reflecting Level 2 estimates based on asset-backed security (ABX) indices failed to take into account a bank's ability and intent to hold assets until price recovery that 'likely' would obtain once markets thawed. Bank managers contended that the substantial spread between the ABX prices and their banks' Level 3 estimates of value-in-use reflected largely a liquidity risk premium rather than a default risk premium.

Many of these same critics also asserted that SFAS 157 was a key contributing factor to the financial crisis because regulated financial entities in the US were forced to sell assets to maintain regulatory capital ratios at acceptable levels because they had to write-down impaired assets to unreliably low levels associated with distress sales – i.e. to prices from disorderly markets. Bank asset prices continued to fall further as additional banks were forced to sell their assets. In short, SFAS 157 is

blamed for causing the pro-cyclicality of deteriorating bank asset prices and hence bank share prices that began in 2007.¹⁹

Regardless of whether fair value accounting was a cause of the liquidity crisis, bank regulators and accounting standards-setters faced strong political pressure to ameliorate the systemic effects of pro-cyclicality. For example, in October 2008, the EU required that the IASB amend IAS 39 to permit companies to reclassify instruments out of the fair value category (the US equivalent of trading securities), and also from available for sale to loans and receivables. As a result, many instruments that would have been recognised at fair value were permitted to be reclassified as held to maturity. Moreover, the political pressure was so intense that the IASB permitted reclassifications retroactively back to June 2008, before prices on loans and debt instruments had fallen substantially.

Thus, the question regulators faced was not whether a regulatory response was necessary or warranted, but rather which regulatory lever should be pulled. Stated another way, the question became which form of regulatory intervention was optimal given the choices available to regulators. The menu available to bank regulators included the following. First, the Basel Committee has the authority to relax regulatory capital requirements during economic downturns, which would relieve the pressure banks faced to sell assets simply to remain in line with regulatory capital requirements. To the extent that the decline in asset prices was temporary, reflecting the effects of severe drops in market liquidity, downward pressure on asset prices would be alleviated because regulatory capital-induced sales would be reduced. Of course, there are costs of taking such actions, the most notable of which is that permitting lower regulatory capital requirements potentially increases moral hazard on the part of bank managers to take risks that could have serious systemic consequences.

Second, the bank regulators in particular countries could alter the way in which regulatory capital is calculated to take into account effects of an SFAS 157-induced liquidity risk premium. For example, in the US, the Federal Reserve could have permitted member banks to adjust write-down amounts to reflect private information bank man-

¹⁸ In May 2009 the IASB published an exposure draft of an IFRS on fair value measurement guidance. The exposure draft is largely consistent with the guidance in SFAS 157.

¹⁹ Pro-cyclicality would have resulted even if impairment charges were determined using the higher Level 3 prices, but the pressure to sell impaired assets would have been less. In other words, pro-cyclicality obtains whenever market prices are in a free fall. See Plantin et al. (2008a, 2008b) for theoretical discussion of how fair value accounting can contribute to pro-cyclical financial instability.

agers had regarding the difference between the portion of asset value changes attributable to default risk and ABX index prices that reflect liquidity discounts. The cost of following this approach is that the Supervisory Review Process (Pillar 2) might become prohibitively expensive, as bank regulators would have to expend resources determining the quality of bank managers' private value estimates.

The third alternative was to turn to accounting standard-setters to modify existing accounting standards that relate to fair value to address the liquidity risk premium problem. This is, in fact, the alternative that obtained in the political marketplace. In response to Congressional pressure that changes were needed in fair value accounting rules, the FASB issued three FSPs in April 2009 that effectively made it easier for all firms, including, of course, financial institutions, to apply Level 3 value estimates instead of Level 1 or Level 2 prices when determining impairment charges, and also permitted the impairment charge to be split between income and other comprehensive income.

In particular, FASB Staff Position No. FAS 157-4, *Determining Fair Value When the Volume and Level of Activity for the Asset or Liability Have Significantly Decreased and Identifying Transactions That Are Not Orderly* (FASB, 2009a) gives companies applying SFAS 157 greater flexibility in determining when a market for a particular asset is inactive or when market prices can be characterised as arising from distressed sales. FASB Staff Position (FSP) No. FAS 115-2 and FAS 124-2, *Recognition and Presentation of Other-Than-Temporary Impairments* (FASB, 2009b), require separate display on the income statement of losses related to 'credit deterioration' and losses related to 'other market factors'. FASB Staff Position No. FAS 107-1 and APB 28-1 *Interim Disclosures about Fair Value of Financial Instruments* (FASB, 2009c) require additional disclosures about fair value, including significant assumptions and methods.

Thus, FSP FAS 157-4 alleviated pressure on banks to sell assets to meet regulatory capital requirements by making it easier to avoid writing down of assets to Level 1 or 2 prices. FSP FAS 115-2 and FAS 124-2 enable banks to 'manage' income and particularly Tier 1 capital because they provide discretion in determining how to split an impairment loss between income and other comprehensive income (OCI), as Tier 1 capital is unaffected by OCI losses. The final FSP, FSP 107-1 and APB 28-1, could, in principle, increase market discipline by

requiring banks to disclose more information about the quality of their assumptions and methods used to estimate asset fair values.

The key benefit of addressing what was essentially a bank regulatory issue through the accounting standard-setting process is that the FSPs provide a uniform approach that all banks must follow, and the resulting financial statements will have to pass the scrutiny of the banks' external auditors. As a result, banking regulators would not have to expend precious resources monitoring bank-specific approaches to estimating the differences between value losses attributable to liquidity and default risk as described above. A key cost is that the FASB made changes to financial accounting rules that apply to all entities, not just banks. Whether these changes are 'optimal' from the standpoint of investors and other stakeholders of non-banks is far from obvious. Moreover, the FSPs were passed without the usual deliberative process the FASB undertakes when making substantive changes to financial reporting requirements.

5.3. Potential consequences of FAS 115-2 and FAS 124-2

Although the FSPs issued by the FASB could have the intended consequence of mitigating pro-cyclicality in severe economic downturns, particularly those associated with illiquidity in asset markets important to banks, the FSPs may also have unintended regulatory consequences. Recall that FSP FAS 115-2 and FAS 124-2 enable banks to manage Tier 1 capital because they provide discretion in determining how to split an impairment loss between income and OCI. An unintended consequence of this is that less healthy banks will be those that take advantage of the FSP by assigning a greater share of impairment losses to OCI than more healthy banks. Thus, the FSP, in effect, provides an additional regulatory cushion for banks that should otherwise be taking steps to improve their financial health. Thus, it is possible that the FSP could result in an increase in systemic risk because regulatory intervention of weaker banks may be suboptimally delayed.

5. Concluding remarks

In this paper we distil essential insights about the regulation of financial reporting from the extant academic literature in accounting, law and economics. The key objective is to synthesise the extant theory of regulation to provide a backdrop against which to evaluate the implications of post-crisis pressures on the regulation of financial accounting,

and to isolate issues for future research. We succinctly lay out the basic arguments that have been put forth both for and against the regulation of corporate reporting. We next apply these general arguments about regulation specifically to the theory of disclosure regulation by first discussing the extent to which fundamental forces of market discipline can generate optimal levels of disclosure in the absence of regulation, and then examining where these forces break down to potentially create scope for regulation.

We then turn our focus to marketwide effects of regulation of financial disclosure. Although political forces affect regulation of firm-level information, such forces play an even more important role in influencing the structure of financial regulation and accounting standard-setting in particular when accounting information is perceived to affect the stability of the financial markets and banking system. Recent actions by the EC relating to IFRS 9 and the proposed legislation in the US Congress to create a systemic risk council serve to illustrate this point. We then discuss in detail the recent fair value debate as a case study of the way in which bank regulatory policy and accounting standard-setting decisions were jointly determined in the midst of financial crisis of 2007–2009.

We conclude by offering suggestions for future research. A key research direction is to seek a deeper understanding of the consequences of using financial accounting as a tool of prudential regulation of financial institutions, relative to using alternative regulatory mechanisms. As we discussed earlier in the paper, during the crisis both the FASB and IASB bent to political pressure and generally allowed banks more flexibility in applying fair value accounting. How did banks actually use the additional flexibility afforded to them in their accounting decisions? Did banks use the flexibility to better reflect economic fundamentals, or did they act opportunistically in exploiting flexibility to achieve regulatory forbearance? How much power should bank regulators have over accounting standards given that such standards apply far beyond just financial firms? Research could attempt to exploit the natural experiment provided by the crisis to examine how political pressure was brought to bear on the standard-setters, and to consider alternative structures to better insulate accounting standard-setters from politics. As China and India, among other potentially influential players, adopt IFRS, political influence over the IASB could come to represent a very significant issue in the future.

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Discussion of ‘The pros and cons of regulating corporate reporting: a critical review of the arguments’

David Lindsell*

As I listened to the paper, in my capacity as enforcer, which is a form of regulator, I was wondering if I was the living embodiment of the capture theory, on the basis that the Review Panel is composed of chief financial officers, auditors and lawyers, who collectively represent the regulated. However, I have to say that most of the interactions I have had with my customers would not lead me to think that they think we are captive to them.

My comments on this paper take the form largely of questions rather than answers. That, after all, is consistent with my role as an enforcer. I am clearly not an academic; I am a humble bean counter turned enforcer.

The authors gave us a fascinating insight into theories of regulation, summarising a good deal of research relating to corporate reporting disclosure, and then moving on to recent accounting regulatory issues, particularly the fair value debate and the political pressures that have arisen.

Their paper sets out to provide a framework within which you might be able to evaluate some of the pressures arising currently from the financial crisis in terms of the impact on the regulation of financial accounting, and isolating issues for further research. That is an ambitious topic, and I found it a bit difficult to see the connections between the different parts, but I think it is a great enterprise to undertake.

I think it is quite difficult to connect the theories of regulation overall with disclosure regulation. Maybe that is just as well because, after all, if the capture theory – the theory, you may remember, whereby the regulators are captured by the regulated – is correct, then I would have thought the policy implication is that government-backed standard-setting should cease and standard-setting should become a free market process again.

However much you might like that idea, it is clearly pie in the sky, and, of course, it would put me out of a job!

The paper discusses, under the heading ‘The case for mandatory disclosure’, the market incentives to disclose all available information in relation to financial reporting. In that context it notes that there is an inevitable resistance to disclosing proprietary information effectively to competitors. However, in financial reporting it is a much bigger, broader issue than disclosure of proprietary information. It is about balance in financial reporting.

If the incentives to disclose fully all relevant information to the market were strong enough, we in the UK would never have had the Cadbury report in 1992, which said, ‘Boards should pay particular attention to their duty to present a balanced and understandable assessment of a company’s position. Balance requires that setbacks should be dealt with as well as successes.’ It is not just a question of proprietary information, it is a question of a much broader balance in disclosure.

The paper goes on to refer to the analysis by three US academics under the heading ‘Regulation of accounting standard-setting’ that focuses on the ideology theory of regulation, which is an interesting and attractive theory. This is, of course, where regulators are seen as being endowed with political ideologies and being subject to influence by pressure groups (although seen as a positive influence rather than having negative, bribery-type, connotations).

The real trouble with that theory is that it does not seem to me to get you very far because all it does is acknowledge that the whole regulatory environment in any territory must depend upon the ideologies of a particular regulator and the nature and extent of lobbying activities directed at them. The theory therefore makes no prediction about the optimality of regulation, and so you start to wonder why the theory is of any practical use. The authors of the study do too, in a sense, because they acknowledge

*The author is Deputy Chair of the Financial Reporting Review Panel and a former partner at Ernst & Young, where he was global director of IFRS services.

E-mail: dc.lindsell@btinternet.com

that it comes down to whether there are mechanisms in the standard-setting process that minimise the effect of idiosyncratic, very odd ideologies and special-interest lobbying. And because an optimal outcome cannot be guaranteed, their solution, as the paper indicates, is to have competition amongst standard-setters. But however nice this is in theory, one cannot see now any realistic prospect of competition between standard-setters.

It has become increasingly clear that the ideology – I would say it is a theology – of fair value is shared, as we have seen, by the international and the US standard-setting priesthood. They are committed to developing a single universal bible of accounting, and the two churches are dead set on uniting. So the only way that you could ever see any competition is through governmental action. Our problem in the UK particularly is that the only way there could realistically be competition now would be if we had European standards. Very, very few people in the UK want that. On the other hand, a lot of people in the UK are very doubtful whether convergence of international and US standards could be achieved without importing the unattractive rules-based mentality and adversarial enforcement approach that characterises US financial reporting. So there is no easy answer to this.

The paper moves on to discuss the increased political involvement in standard-setting in the wake of the financial crisis, and refers to the demands made on the IASB and the FASB to relieve some of the pressure on bank balance sheets that was perceived to derive from fair value accounting. The paper raises the possibility that the increased discretion granted to financial institutions during the crisis may have weakened market disciplinary forces by reducing bank transparency and may have increased the potential for opportunistic behaviour by bank managements and may have allowed essentially insolvent banks to continue operating. It cites research that appears to confirm these possibilities. However, I would say that in view of the very fundamental changes that occurred in the credit markets and their impact on asset valuation methods and assumptions, any claim to be able to produce reliable evidence of these types of outcome at the moment must be regarded with considerable scepticism.

As regards allowing insolvent banks to continue operating, well of course, that is exactly what happened – but we should not be surprised! History tells us that this is typically what happens when a crisis is potentially life-threatening to the system. It happened in the secondary bank crisis at the end of 1973, although it was much smaller, in the sover-

eign debt crisis in the early 1980s, and of course the collapse of Lloyd's. What has happened in the meantime since all those things happened may not be so much an increase in the interventionism of regulators as an increase in transparency that makes it more difficult for regulators to make informal arrangements to safeguard the system. This brings me towards my one key point that I would make, but let us look at something else in the meantime.

The final part of the paper's analysis discusses the regulatory response in the US to pressure for relaxation of the mark-to-market valuation rules, on the basis that, as was widely argued by banks, valuations were increasingly being depressed by large liquidity risk premiums rather than default risk premiums, and that this was causing what was described as pro-cyclical deterioration in bank asset prices or values.

The paper discusses in very practical terms the benefits and the drawbacks of addressing what was essentially a bank regulatory issue through the accounting standard-setting process. The really fundamental question is how the introduction into accounting standards of recognition and measurement rules that are required for prudential regulation purposes, designed to promote financial stability – how that importation can be reconciled with the objective of preparing financial statements that support the efficient allocation of capital by financial markets. And that is the big, \$64,000 question, which is why some of us think there should be a clear separation between prudential regulation and the regulation of publicly-reported financial statements.

The paper rightly points out that in the aftermath of the financial crisis, accounting standard-setting has been subject to greater political pressure than ever before. However, we should not be surprised by this. If you take the UK as an example, history shows that each significant change in the scope of financial reporting and regulation in the UK has been in response to spectacular corporate failures and other financial scandals involving poor financial reporting. It was true of the Dearing Report in 1988, which resulted in the formation of the Financial Reporting Council; the Cadbury report in 1992, which introduced, of course, the first corporate governance code with which companies in the UK were expected to comply; and the post-Enron initiatives such as the Higgs Report and the setting up of the Professional Oversight Board.

It seems to me therefore, getting to my own theme, that applying theories of regulation to discrete episodes or events fails to recognise that events are a product of their history. It seems to me

necessary to study the history of financial reporting regulation in order to understand the dynamics of the regulatory response to developments and in order to distinguish the main drivers of the system from mere description.

I should like to close my comments with a personal experience that demonstrates the importance of understanding the history of issues when trying to assess their current status. The paper refers to the regulatory debate over fair value accounting and proposals by the Financial Stability Forum as if they were entirely a product of the financial crisis. In fact, the financial crisis has merely enabled the regulators to force the accounting standard-setters to take on board some of the views that they, the regulators, had been expressing, and the standard-setters resisting, for some time.

I was a member of the Standards Advisory Council of the IASB in June 2006, which was well before the onset of the financial crisis – nobody thought of any financial crisis at that stage – when a Council member from the European Central Bank with responsibilities for financial stability raised five issues in relation to accounting standards. He expressed concerns about these issues:

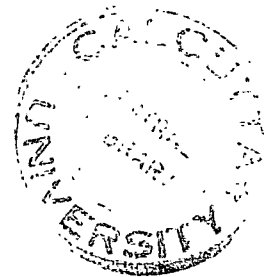
- first, the ‘own credit’ issue, that is recognising liabilities at fair value;
- second, the conflict between accounting and risk management in relation to bank demand deposits and the inability under IAS 39 to use them for interest rate hedging purposes, which, of course, gave rise to the IAS 39 European carve-out that

was supposed to be temporary but has never been resolved;

- third, the limitations of fair-value measurement and its potential, as the ECB representative said, to inject artificial volatility that degrades the information value of prices and induces sub-optimal real decisions;
- fourth, the incurred loss model of loan loss provisioning, arguing as he did that the expected loss model provides a more accurate representation of the fair value of the credit risk that a bank is exposed to;
- and then finally, and least controversially, the inadequacy of single-number reporting of valuations and the need for information in accounts that would more accurately reflect the distribution of values in order to address better the reporting of risk.

Do those issues sound familiar? Of course they do! As I recall, in June 2006, IASB members lined up to oppose all these points other than the last one. However, it looks as though on all these issues the IASB, which was so dismissive of them in 2006, has now taken on board pretty well all the concerns expressed by the central banker.

The point I wish to make is that it is only by placing the present in the context of the past that we are able to foresee the direction that the regulation of corporate reporting might take and to evaluate the implications of possible future directions and to try and stop some of the less desirable trends and influences that might otherwise arise.



The ICAEW's Recommendations on Accounting Principles and secrecy of process

Stephen A. Zeff*

Abstract — This article discusses the origin, operation, and impact of the ICAEW's programme of issuing a series of Recommendations on Accounting Principles from 1942 to 1969, and examines in particular the secrecy of process which prevailed in that era.

Keywords: accounting principles; recommendations; due process; secrecy; ICAEW

Today, there is much discussion about 'due process' and openness in the setting of accounting standards – 'standard-setting', as it came to be known in the 1970s. At one standard-setter or another, we are accustomed to discussion papers, exposure drafts, open board meetings, roundtables or public hearings, open advisory council meetings and websites brimming with information about agendas and projects in process. But it has not always been this way.

1. Background

Think back, if you will, to the 1940s, 1950s and 1960s, to an era before the frenetic pace of mergers and acquisitions, before huge management bonuses and employee share options, before derivative financial instruments, before analysts' forecasts of earnings and before international accounting standards. From 1942 to 1969, the Council of the Institute of Chartered Accountants in England and Wales (ICAEW, Institute) undertook to advise its members on best accounting practice by issuing a series of 29 Recommendations on Accounting Principles. The only precedent for a professional accountancy body giving such advice on a programmatic basis was in the US, where, in 1938, the American Institute of Accountants (AIA), at the urging of the chief accountant of the Securities and Exchange Commission (SEC), empowered a committee to issue bulletins to develop accounting principles and eliminate the areas of difference, lest, in the vacuum of such authority, the SEC be obliged to do so itself (Zeff, 1972: 132–133). The AIA's leadership did not want the task to be left to government. In the US at that time, it was known that the SEC would

enforce compliance by publicly traded companies with the accounting practices having 'substantial authoritative support', such as those recommended by the AIA's committee, so long as the SEC's accounting staff did not dissent from the recommendations (see Zeff, 2007).

In the UK at the time, no governmental body examined the contents of accounts rendered by companies to shareholders. The Companies Act 1929 required that the accounts give 'a true and correct view', which was rephrased as 'a true and fair view' in the Companies Act 1947. It was a bold venture for a professional accountancy body in that day to give official advice to its members on best practice. The Scots, for their part, did not look favourably on the issue of recommendations to members. Sometime after 1951, when the chartered accountancy bodies in Glasgow, Edinburgh, and Aberdeen amalgamated to form The Institute of Chartered Accountants of Scotland (ICAS), it was decided that ICAS would not follow the ICAEW's lead in issuing formal advice on best accounting practice to its members. First, it was believed that such matters were better left to the integrity and the professional judgment of its members. Second, such recommendations could, it was feared, be introduced in court against its members. Unlike the ICAEW, ICAS published a journal, *The Accountants' Magazine*, which contained technical articles. Instead, ICAS formed a Research and Publications Committee in 1962 which proceeded to publish papers on accounting subjects and to spawn papers that were published under the names of one or more authors, but without the ICAS Council making any recommendations (Zeff, 1972: 51–54).¹

*The author is the Herbert S. Autrey Professor of Accounting at Rice University, Houston, Texas, USA. E-mail: sazeff@rice.edu. The author expresses gratitude to the anonymous reviewer for many valuable comments on an earlier draft.

¹There was a lone exception, in 1954, when the ICAS Council, following the publication of the ICAEW's Recommendation 15 on changing prices, issued a statement conveying its views (see below).

2. Run-up to the Recommendations

How did the ICAEW come to proffer that advice? Prior to 1941, in the more than 60 years since its founding in 1880, it had never issued any booklet or guidance statement on a technical matter. The Institute did not even publish a journal in which technical articles could appear.² The weekly magazine *The Accountant* regularly carried the Institute's announcements and reports, but it was published by Gee & Co (Publishers) Ltd. The ICAEW was run by, and for, the members in practice – that is, the members who were partners in accountancy firms or were the owners of their sole practice. Members in commerce and industry, whose numbers were relatively small until the 1930s, were not represented on the 45-member Council and could not serve on committees. The Council regarded such members as 'having left the profession' (Noguchi and Edwards, 2008: 135). By 1939, the ICAEW members in commerce and industry rose to 17.3% of the total membership, more than double the percentage a decade before (Noguchi and Edwards, 2008: 131). And in 1941, during one of the darkest periods of the war, they petitioned the Council for a voice in the affairs of the Institute. In 1942 they won their case. The Council created a Taxation and Financial Relations Committee ('T&FR Committee') with the express purpose of drafting memoranda and technical papers on pending and prospective income tax legislation (Noguchi and Edwards, 2008). The Finance Act 1940, which increased the rate of Excess Profits Tax from 60 to 100%, was regarded as just one of a series of 'little horrors' ('Taxation and Research Committee', 1958: 799) that stimulated this interest in making representations to the government.

Shortly after it was formed in April 1942, the T&FR Committee requested authority also to draft guidance statements on accounting principles, and the Council promptly acquiesced (Zeff, 1972: 9–10). Why was this unprecedented authority requested? There was a belief, as *The Accountant* wrote, that, on a number of accounting issues, 'the absence of authoritative guidance has led to a diversity of treatment and consequent difficulty and doubt in comparing and summarising the results disclosed by different trading undertakings' ('The Institute and accounting principles', 1943: 145). Moreover, some leading figures in the Institute anticipated a major revision of companies legislation in the offing (see Noguchi, 2004: 64–65), and

they may have hoped that the Institute's guidance on accounting principles could be called upon in the Institute's submission made during the amendment process.

Specifically, it was probably F. R. M. de Paula, an ICAEW member in industry who has been aptly described as 'standard-bearer in the movement for fuller disclosure and greater comprehensibility in financial reporting' (Kitchen and Parker, 1980: 81), who was behind the committee's request in 1942 for such authority. Sir William Carrington, in 1942 a partner in Whinney, Smith & Whinney who joined the Council in that year, has subsequently recalled, 'those immediately concerned with the setting up of the T&FR were very anxious that de Paula should become a member and be appointed vice-chairman [which he was]. When approached he asked whether the Council would give authority for the T&FR to proceed with the drafting of statements on accounting principles in relation to company accounts, a major extension to what had then been published by way of assistance to members – the treatment of tax reserve certificates and so on. De Paula was informed that this authority would be sought from the Council and in all probability obtained and so it was, de Paula meanwhile having been appointed'. Sir William confirms that, when the Council created the T&FR Committee, the publication of a series of statements on accounting principles 'was not on the record as a reason for the formation of the T&FR nor do I think that the majority of the members of the Council were aware that the publication of such statements was envisaged'.³ That the Council acted so swiftly to endow the new committee with authority to issue such statements was due to the strong support for this initiative by Harold M. (later Sir Harold) Barton, also a progressive thinker who was the committee's chairman and the Vice-President of the Institute.⁴

Throughout the 1940s, 1950s and 1960s, the T&FR Committee was always composed of a majority of members in practice, but with a significant and active component of members in commerce and industry. The committee's size gradually ascended from 27 members at the outset to more than 50 by the 1950s. The committee was never allowed direct access to the Council. It had to forward its drafts to the powerful Parliamentary and Law Committee, a subcommittee of the Council comprising 13 to 15 members who typically

³ Letter from Sir William Carrington to the author, dated 5 April 1971.

⁴ Private memorandum to the author from a member of the Institute who was closely associated with its technical activities for many years, dated 20 April 1971.

² The section in Zeff (1972: 7–23) which treats the ICAEW's programme of issuing Recommendations on Accounting Principles was reprinted in Zeff (2009).

included between three and four past Presidents. Although one non-practising member was added to the Council in 1943 and another in 1944 and a few others later on, no non-practising member was appointed to the Parliamentary and Law Committee until 1951.⁵

3. Overview of the Recommendations and their impact

The T&FR Committee went right to work. By the end of 1942, the committee and its subcommittees had already held 18 meetings. There was a small Institute secretariat which assisted in the drafting. The first five Recommendations were issued with remarkable speed, between December 1942 and March 1943. They were mostly brief and recommended rules of application on an assortment of highly specific issues: tax reserve certificates; war damage contributions, premiums and claims; the treatment of taxation in the accounts; the treatment in accounts of income tax deductible from dividends payable and annual charges; and the inclusion in accounts of proposed profit appropriations.⁶

Then, in March 1943, it was decided that the next subjects to be taken up should address more general financial reporting issues 'in response to the preparations being made at the [Board of Trade] for a new inquiry into company law...' (Noguchi, 2004: 80). Indeed, in June 1943, the President of the Board of Trade appointed the much-anticipated departmental committee to take testimony and recommend revisions to the Companies Act 1929 ('Departmental committee', 1943). As Bircher writes, the committee turned from 'matters of small and technical significance to matters of much wider import' (1991: 241). In this challenging new mode, the parties to the process of developing Recommendations moved with alacrity, and the next five Recommendations were issued by June 1945. These more ambitious (and rather more controversial) Recommendations dealt, in order, with the disclosure of free reserves and a firmer definition of provisions, the preparation of group and subsidiary accounts, the form of the balance sheet and profit and loss account, the depreciation of fixed assets, and the valuation of stock-in-trade. The Recommendation on reserves and provisions responded to the infamous Royal Mail case of

1931, which turned on the deception known as secret reserves to flatter the company's profit. Much of the content of the first eight Recommendations found its way into Companies Act 1947 (Howitt, 1966: 102–103).

Following issue of a Recommendation on excess profits tax post-war refunds, the committee took on a vastly more contentious issue: accounting for rising price levels in relation to accounts. The resulting Recommendation, numbered 12 and issued in January 1949, defended historical cost accounting for fixed and current assets and said that any amounts set aside for a higher replacement cost should be taken to reserves, not to profit. The Recommendation provoked a storm of controversy outside the Institute as well as within the Institute, especially among leading members in commerce and industry, who favoured the use of replacement cost in the reckoning of profit, if only to persuade the government that it had been taxing capital as if it were profit. This discord notwithstanding, the ICAEW leadership ordered the drafting of a follow-on Recommendation to restate its position with greater amplification of the Council's views. Before moving towards approval of its draft Recommendation, the ICAEW took the unprecedented step of consulting the other major accountancy bodies, the Stock Exchange, and the Federation of British Industries. All but one person, a member of ICAS, among the representatives of the bodies consulted disagreed with the Institute's preliminary draft document and urged that Recommendation 12 be withdrawn forthwith (Noguchi and Edwards, 2004: 301). These contrary views notwithstanding, in May 1952 the ICAEW Council issued Recommendation 15, which reaffirmed its earlier position in extenso.⁷ Also in 1952, both the Institute of Cost and Works Accountants (today the Chartered Institute of Management Accountants) and the Association of Certified and Corporate Accountants (today the Association of Chartered Certified Accountants) published books which advocated the use of replacement cost in determining profit,⁸ and the ICAS Council stated that 'it is clearly inappropriate' for an accountancy body to advocate one or the other position to its members until some of the differences in opinion among accountants are resolved through practical experience (Zeff, 1972: 19). The ICAEW

⁵ De Paula was the non-practising member named to the Council in 1943, and P. M. Rees, the chief accountant of Unilever, was the non-practising member added to the Council in 1944. Both were leaders in the T&FR Committee in the drafting of Recommendations.

⁶ All of the 29 Recommendations have been reproduced in Zeff (2009). As they were issued, the Recommendations were published in *The Accountant*.

⁷ For a full account of this episode, see Noguchi and Edwards (2004).

⁸ See, respectively, *The Accountancy of Changing Price Levels* (1952) and Taxation and Research Committee of the Association of Certified and Corporate Accountants (1952).

Council did not escape from this controversy unscathed.

With the issue of the Recommendations on depreciation, stock-in-trade, and price change accounting, the series began to tread on matters of principle, and Professor W. T. Baxter, of the London School of Economics, wrote a critical article to argue that recommendations on accounting principles issued by professional bodies were likely to stifle the development of accounting theory (Baxter, 1953).

Among the later Recommendations were those on accounting for deferred tax, investments in the accounts of trading companies, retirement benefits, hire purchase transactions, investment grants received from the Board of Trade, and major changes in the sterling parity of overseas currencies, as well as one on the accounts of investment trust companies. These were all consequential issues.

In 1966–1967, the Council of the ICAEW and the Research and Publications Committee of ICAS differed on the proper accounting treatment of investment grants. A majority of the ICAS committee concluded that the grants should be credited to capital reserves straightaway. But the ICAEW Council, in Recommendation 24, said that the grants should be taken to profit over the estimated useful lives of the assets to which they relate. The Council softened its disagreement with the ICAS committee by conceding that, so long as there was adequate disclosure and consistent treatment, crediting the grants to reserves ‘will not necessarily impair the presentation of a true and fair view’. This difference in positions emanating from the two institutes ‘was a source of anguish to many practitioners, especially in firms where some partners were members of the English Institute and others belonged to the Scottish Institute’ (Zeff, 1972: 21).

The series of Recommendations apparently had an impact on practice, even though there was no agency in the public or private sector that oversaw compliance. Sir Thomas Robson, a retired senior partner of Price Waterhouse & Co. and a former Institute President and long-serving member of the Parliamentary and Law Committee, recalled in 1971 that the Recommendations ‘met a remarkable degree of acceptance not only from members of the profession but what was even more striking, from directors of companies and their advisers. The consequent impact on the standards of accounting in the country was little short of tremendous’.⁹ Sir Harold Howitt, a retired partner in Peat, Marwick,

Mitchell & Co. and the ICAEW President in 1945–1946, held a similar view, saying that the Recommendations ‘had a profound influence on accounting practice and immensely strengthened the hands of members of the Institute when advising or persuading company directors [to improve their accounts]’ (Howitt, 1966: 103). Unfortunately, no studies have been published giving statistics of companies’ degree of adherence to the Recommendations.

4. The process for developing Recommendations

By what process were the ICAEW’s Recommendations developed? The Council laid on a plan for extensive consultation within the Institute but absolutely no consultation with parties outside the Institute.¹⁰ No outsider was to be informed even of what subjects were being taken up until the Council, in its wisdom, finally approved and promulgated a Recommendation. And no one outside the Institute could know which, if any, projects were stalled or aborted en route. The process was, as regards the outside world, shrouded in secrecy.

Fortunately, the ICAEW Secretary, Alan S. MacIver, when addressing the Institute Summer Course in September 1954, related the labyrinthine channel through which the draft Recommendations typically proceeded from selection and approval of a subject to final approval of the document by the Council. In 1954 the drafting committee (by then called the Taxation and Research Committee) had 48 members: six appointed by the Council, 30 appointed by the 14 District Societies, and 12 co-opted by the committee itself. The Parliamentary and Law Committee had 13 members, of whom one was non-practising. The Council membership included five non-practising members (*List of Members 1954*, 1954: 6–7, 9, 15).

The Secretary said that the Council requires that a proposed Recommendation meet three conditions prior to being approved for publication (MacIver, 1954: 657):

First, ‘that the substance of the document must be approved by an overwhelming majority of the Council’.

¹⁰In addition to the consultation leading up to Recommendation 15, mentioned above, another exception occurred in 1968, when ICAEW representatives consulted with ICAS concerning the proposed Recommendation on accounting for investment trust companies (Zeff, 1972: 21; ‘Balance sheets of investment trust companies’, 1969: 730). Edinburgh has long been a home to major investment trusts. On at least one occasion, the Law Society was consulted on the contents of a draft Recommendation.

⁹Letter from Sir Thomas Robson to the author, dated 15 April 1971.

Second, 'that the document must be reasonably concise in form'.

Third, 'that there must in the opinion of the Council be a real need for a declaration on the subject and the document must be a real contribution thereto'.

An outline of the procedural route, condensed and paraphrased from the Secretary's much more elaborate rendering, is as follows (MacIver, 1954: 656-657):

1. Subjects for consideration usually originate with a Research Programme Subcommittee. If a subject were approved by the Taxation and Research Committee ('T&R Committee'), it is submitted to the Parliamentary and Law Committee ('the P&L Committee'). Final go-ahead on a subject would be given either by the P&L Committee or by the Council itself. Sometimes, the P&L Committee originates matters that could usefully be looked into by the T&R Committee.
2. An approved subject is assigned to one of three subcommittees of the T&R Committee: General Advisory (which is concerned with accounting principles and related matters), Taxation and Management Accounting. As these subcommittees are rather large, they would usually appoint a drafting subcommittee for each new subject.
3. The drafting subcommittee holds meetings (which could be many) to formulate a draft memorandum. Subcommittee members and a member of the Institute secretariat work over successive drafts.
4. The General Advisory Committee considers the draft, alters it where necessary (in some instances returning the amended draft to the drafting subcommittee for comments) and circulates the new version to the regional T&R committees.
5. Each of the 14 District Societies has a T&R Committee which is independent of the Institute's committee of the same name. All told, some 250 members are involved throughout the country, both practising and non-practising. The secretary of each regional committee obtains the comments of his committee's members on the circulated draft memorandum and forwards them to the secretary of the Institute's T&R Committee.
6. A collation of the comments from the regions is circulated among the members of the drafting subcommittee, which meet to settle a revised draft to be submitted to the General Advisory Committee.
7. The General Advisory Committee then considers the revised memorandum, perhaps making amendments that would require a further intervention by the drafting subcommittee, and eventually forwards the draft to the T&R Committee.
8. The T&R Committee, intervening for the first time since the approval of the subject, settles the terms of the draft which it is prepared to submit to the P&L Committee and the Council, or in rare instances would return it to the General Advisory Subcommittee for directed revisions.
9. Once accepted by the T&R Committee, the draft is sent to 'joint representatives', consisting of T&R Committee members who had taken an active part in the detailed drafting and a few members of the P&L Committee. The object of this intermediate stage is to enable senior members of the P&L Committee to raise any major points that are likely to be brought up in a meeting of the full P&L Committee. This stage usually results in the preparation of a revised draft for submission to the P&L Committee.
10. The P&L Committee, once it receives the draft, will need to satisfy itself on the answers to a number of questions. Is it a subject on which a statement from the Institute is needed? If so, should it go forth as a Recommendation or as another form of publication, such as a pamphlet of notes? If a document ought to be issued, is the substance of the draft approved? Does it contain anything which is unnecessary or omit anything which is necessary? Is it expressed in simple and clear language and is it sufficiently concise? If it is necessary to take legal advice, the decision would be delayed accordingly. Finally, if the draft is to be issued, and not returned to the joint representatives for further discussion, it would be forwarded to the Council with the P&L Committee's advice.
11. At the Council level, it is seldom that more than minor amendments are made, owing to the thorough process of study and amendment through which the draft has already passed. Nonetheless, it is not unknown for the Council to rewrite a draft extensively.
12. Once the Council has given authorisation, the document is published in the appropriate form.

Following his lengthy recital, the Secretary remarked in humour: 'If anyone were to sit down with the avowed object of devising the slowest method of producing a document I doubt whether he could devise anything better than [this] procedure...' (MacIver, 1954: 657). MacIver proceeded to say, 'Nevertheless, it has in practice been found to be an extremely effective method of preparing a document to which the Council can eventually give its blessing ...' (p. 657). For its part, *The Accountant* said it admired 'the meticulous way' in which the committee proceeds to develop Recommendations ('Service record', 1954).

The lack of a formal process of consulting on draft Recommendations outside the Institute did not seem to excite any critical commentary. Even with all of this secrecy of process, the involvement of so many participants in the process would, one presumes, have led to leaks of facets of the drafts to the outside world, and this might have prompted interested parties to seek to enlighten members of the Council with their views.

To manage to get a draft Recommendation, especially one that provokes disagreement, through the Council would not have been an enviable assignment. The Council embodied the conservative elders of the profession, and in 1954 the median length of tenure of the 45 members serving on the Council was seven years. But this figure is deceiving. Ten of its members were past Presidents, all practising members, of course, who had more influence in the deliberations than their one vote each. Eric Hay Davison, an Institute member in industry who served on the Council in the early 1960s, recalled in an interview, 'There were the ex-presidents sitting and so on [in the Council meetings], sitting on the front row, round the throne – they were the people who really held sway, and nothing very much would happen if they didn't agree' (Mumford, 2007: 41). The median length of tenure of the ten past presidents in 1954 was 22.5 years. Two of them had been sitting on the Council since 1915. Davison also referred to 'the total stonewalling attitude of the practitioners, you know – the big firms on the Council of the Institute – to do anything which involves change' (Mumford, 2007: 40). The tally of votes in the Council meetings was never disclosed.

It was perhaps a major achievement of this elongated procedure of drafting, which culminated in approval by an 'overwhelming majority' of the Council, to have produced as many as 29 Recommendations over the course of 27 years. Most of the Recommendations dealt with substantive issues of measurement and disclosure, and

some were quite controversial. They were said to be influential in raising the standard of practice.

In 1969, because of a number of accounting scandals that had caught the attention of the press and Professor Edward Stamp, at the University of Edinburgh, pressure built on the ICAEW to replace the Recommendations series with a programme of issuing rather more definitive standards in order to narrow 'the areas of difference and variety of accounting practice' (Stamp, 1970: 65–73, 145–146). Thus began, in 1969–1970, the work of the ICAEW's Accounting Standards Steering Committee, which the other major accountancy bodies in the UK and Ireland eventually joined, to issue *Statements of Standard Accounting Practice*. From the outset of the new programme, the Committee issued exposure drafts to secure the views of outside parties, an element of 'due process' which was inspired by the experience of the Accounting Principles Board in the US and Canada's Accounting and Auditing Research Committee.¹¹ Restricting the formal consultation process on draft documents to those within the Institute thus fell by the wayside. The story of that new standards programme is told by Rutherford (2007).

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¹¹ Communication from Michael Renshall to the author, dated 20 January 2010.

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Conceptual frameworks of accounting from an information perspective

John Christensen*

Abstract — This paper analyses the benefits of accounting regulation and a conceptual framework using an information economics approach that allows consideration of uncertainty, multiple agents, demand for information, and multiple information sources. It also allows private information to enter the analysis. The analysis leads to a set of fundamental properties of accounting information. It is argued that the set of qualitative characteristics typically contained in conceptual frameworks does not adequately aggregate the information demands of users of accounting information. For example, the IASB's conceptual framework contains no guidelines for the trade-off between relevance and reliability. Furthermore, neutrality might not be part of an optimal regulation. The statistical bias introduced by the stewardship use of accounting information is not necessarily undesirable and will always remain; stewardship is the characteristic of accounting information that provides incentives for management to act in the desired way. Accounting information is inherently late compared to other information sources but influences and constrains the content of more timely sources. The accounting system does not exist in a vacuum. Other information sources are present and the purpose of the accounting system cannot be analysed without considering the existence of other information sources. Finally, financial statements are audited by an independent auditor. This implies that accounting data are hard to manipulate.

Keywords: accounting regulation; conceptual framework; qualitative characteristics; information economics

1. Introduction

The question I have been asked to address is how conceptual frameworks contribute to the quality of corporate reporting regulation. This is by no means an easy task. In the paper I shall attempt to show that an answer requires identification of the concept of quality of corporate reporting, of the purpose of the conceptual framework, and of the benefits of reporting regulation. In order to understand the concept of the quality of corporate reporting it is important to analyse the fundamental characteristics of accounting information and its limitations.

The idea of the conceptual framework is to provide a set of consistent principles to guide regulation and reporting of financial information as part of the political decision process. The IASB's current conceptual framework (IASB, 1989) gives equal ranking to information that is useful to a wide range of users in making economic decisions (para. 12) and information that shows the results of stewardship of management (para. 14). The Discussion Paper that sought to bring together the IASB and FASB conceptual frameworks (FASB/IASB, 2006) asked whether stewardship had a

continuing role in the objective and indicated a preference to focus solely on decision usefulness (para. BC1.32 to BC1.41). In the proposed conceptual framework (FASB/IASB, 2008) the main objective of decision usefulness is expanded to include information about 'management's ability to protect and enhance the capital providers' investments' (para. OB 9).

Previous work has shown that, in a single firm setting, the accounting system has to be finely tuned to the specifics of the organisation and its environment, including the economics of the firm, the decision problems at hand, the private information of the parties involved, the public information, and the moral hazard problems of the organisation. Furthermore, the world contains many firms and many decision-makers.

It is impossible to construct an income measure that reflects true income as defined by Hicks (1946) when markets are not perfect and complete (Beaver and Demski, 1979). Such a measure does not exist. Rather, accounting should be viewed as an information system as acknowledged by both FASB and IASB in their original conceptual frameworks (FASB, 1978; IASB, 1989). Unfortunately, there is no universal ranking of information systems (Christensen and Demski, 2003). In addition, it is well known that no rational preference relation describes the decision process of society (Arrow, 1951). The accounting system is the result of a delicate balancing of the possibilities imbedded in the accounting system and the demands of the users.

*The author is Professor of Accounting at the Department of Business and Economics, University of Southern Denmark, Campusvej 55, DK-5230 Odense M, Denmark. Tel: +45 6550 3244. E-mail: jcn@sam.sdu.dk.

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This balancing is not entirely of a technical nature as it calls for balancing of preferences of the parties involved. Such balancing cannot be achieved by technical rule-making and is inevitably the result of a political decision process.

The accounting income number reports firm-specific financial information to the market and thus reduces the information asymmetry in the market. The paper considers how information is simultaneously used by investors to make decisions and to induce or influence management to behave optimally or to use the entity's resources efficiently. The decision-influencing role distorts the reporting incentives. Once the accounting information is used for performance evaluation (or for decisions regarding replacement of management), incentives for earnings management arise (Burgstahler and Dichev, 1997; Graham et al., 2005). The reason is that the financial statements include reporting of private information by management as part of the accruals. Auditing reduces this problem to some extent. Managers often have an informational advantage over the auditors and this prevents the problem from being completely eliminated.

A current trend in financial reporting is toward adoption of a fair value approach. It is highly questionable whether this is a viable path. The firm has an information advantage compared to the users of financial information and this advantage is used strategically in reporting. Fair value accounting relies even more on the private information of management, and enhances the possibilities for earnings management and leaves auditing less efficient. In addition, it is not obvious what information should be included into the financial statements. One question is whether the accounting system or the users are better at performing the aggregation of various information sources (Christensen and Frimor, 2007).

A related question is how the accounting system best complements other information sources. The financial statements will always be published late compared to other information sources. This is due to the nature of financial statements as all transactions must be processed and audited before the statements are released. In contrast, management's forecast might be timely. The prime purpose of financial statements might be to provide incentives for reporting of other types of information.

The conceptual frameworks of both IASB and FASB identify sets of the qualitative characteristics of financial information. The origin of the qualitative characteristics is related to the decision orientation of accounting and was stated in the ASOBAT report on accounting theory (AAA, 1966). These

qualitative characteristics certainly describe the attribute for a useful information system when it is used for decision-making purposes in a one-person world. This might be very different in a multi-person world. For example, one of the characteristics calls for unbiased reporting standards, yet recent research finds that the introduction of bias might lead to welfare improvements (Christensen and Demski, 2007). Furthermore, it is impossible to maximise all qualitative characteristics simultaneously and consequently there is a demand for trade-offs. However, the frameworks are silent on how to do this. In a multi-person world it is not possible to replace the individual preferences with a set of qualitative characteristics.

It is obvious that there is a demand for regulation of financial reporting and that a conceptual framework includes the objective and basic principles of reporting regulation. Given the multi-person nature of the problem it might take the form of a constitution (in the sense of fundamental laws and principles). The benefit will be that the conceptual framework forces the regulators to constantly seek solutions that are maintaining and enhancing the comparative advantage of the accounting system compared to other information systems such as press releases and web-based information sources.

An information economics framework allows consideration of uncertainty, multiple agents, demand for information, and multiple information sources. It also allows asymmetry in the knowledge of different stakeholders in the market such that the firm knows something which is of value to the market participants. Finally, it allows incentive issues to be part of the analysis.

My analysis of how conceptual frameworks contribute to the quality of corporate reporting will fall into four parts. Section 2 will analyse the supply of accounting information for decision and control. Accounting accruals are seen as the primary vehicle for management to report their private information. The incentives for such reporting are reviewed. Section 3 will deal with the demand for financial information. It is argued that the demand for decision purposes and control purposes leads to different ranking of accounting systems. The suggestion to have different accounting systems for different purposes is analysed and rejected. Section 4 will discuss the fundamental properties of accounting information. The qualitative characteristics and other fundamental properties will be part of this discussion. Section 5 will show the implications of the analysis for the accounting regulation and the conceptual framework. Conclusions are offered in Section 6.

2. The reporting organisation

2.1. Income measurement

One of the prime targets for accounting information is the investor group and, according to common wisdom, the main interest for this user group is the future cash flows of the company. First assume that the firm is placed in a perfect capital market under certainty. The cash flow series for the lifetime of the firm is given by:

$$CF = (CF_0, CF_1, \dots, CF_T) \quad (1)$$

Given perfect capital markets, a no arbitrage argument leads to the well-known result that the NPV of investing in a firm is zero. The value of the firm at any given date t is given by:

$$PV_t = \sum_{j=t+1}^T CF_j (1+i)^{t-j} \quad (2)$$

With this the income definition easily follows:

$$I_t = CF_t - (PV_{t-1} - PV_t) \quad (3)$$

This is economic income and coincides with the classical income as defined by Hicks (1946) and it is equal to cash flow minus economic depreciation. Again, a no arbitrage argument leads to this income being equal to the interest earned on the invested capital or:

$$I_t = iPV_{t-1} \quad (4)$$

In a perfect world income measurement is not interesting (Beaver and Demski, 1979). Everybody knows everything and information adds nothing new.

2.2. Decision information

Imperfection might take on many forms. The first to be introduced here is adding some of the details leading to the given cash flows. The firm is producing one product and the basis for this is an initial capital investment and labour in each period. Both are acquired in perfect markets and the production function describes a feasible relationship between inputs and output. The demand is exogenously given for each period. The realised cash flows are the consequence of optimal production during the lifetime of the firm. If inventories are possible and if the production function exhibits economics of scale or scope, production smoothing will be part of the optimal production schedule. Thus, the total assets of the firm will both contain the inventory of finished products and the fixed assets. Despite the fact that the value of the firm is uniquely determined, it is not possible to find individual values of the two assets that add up to the total value of the firm. The non-separability of the

cost function combined with the non-perfect markets (for the finished product and the fixed assets) leads to this result (Christensen and Demski, 2003). The result points to the difficulty there is in defining appropriate and descriptive accounting measures even when faced with lots of regularity and certainty. The analysis by Bromwich et al. (2009) reinforces this point.

Now, no uncertainty leads to no demand for information (or there is no such thing as information in such a world). Formal introduction of uncertainty into the model calls for a definition of the error terms that have an influence on the cash flows in each period. The simplest model of this type includes the following stochastic cash flow series:

$$CF = (CF_0 + \varepsilon_0, CF_1 + \varepsilon_1, \dots, CF_T + \varepsilon_T) \quad (5)$$

Assume that the ε_j 's are identically and independently distributed. The accounting system reports routinely the realised cash flows, but the realised cash flow from period j will have no predictive ability with respect to future cash flows. Thus, accounting information is only keeping track of the realised cash flows, but it is hardly useful.

The introduction of a correlated error structure changes this. Actions or decisions often have a multi-period effect and this feeds into the stochastic description of the future cash flows. Now observation/reporting of the cash flows will provide information that enables the user to update the expectation of the future cash flows. This estimation uses the correlation structure. This is information for valuation purposes as in Peasnell (1982). For the purpose of facilitating this estimation the accounting system might be useful. This will be the case when the accounting system, together with the reporting of realised cash flows, provides more insight into the error structure, thus enabling the user to better form expectations about future cash flows. More accounting variables might improve the estimation. The key to finding valuable information is to get information about the fundamental time processes or the components which characterise the evolution of the cash flow series. Any bias in the accounting variables does not matter as long as the user is able to inverse the bias and decipher the content of the accounts (Demski and Sappington, 1990). The important component remains the unexpected error which is used to form expectations. Any systematic bias in the accounting model is easily countered through a balanced use of the information.

Furthermore, the double entry accounting system satisfying the clean surplus relations or the comprehensive income contains counterbalancing

errors. Over the lifetime of the firm the accounting income will always equal the total cash flows of the firm. That is, whichever errors the present accounting valuation includes, these are balanced by the error in the future expected accounting income numbers (Feltham and Ohlson, 1995).

2.3. *Control information*

The control use of accounting numbers is often modelled using the principal-agent model. The principal hires an agent to perform a task for some reason. The principal is unable to observe the action selected by the agent and at the same time the act is a source of disutility for the agent as he does not want to work hard. The market for labour of the type of the agent determines the level of the salary. The agent has to be offered at least the utility he can get from working elsewhere to accept working for the principal. This is the classical moral hazard problem (Holmstrom, 1979). The naïve interpretation of this model is cast in the form of a simple working relationship. However, it is descriptive of much more complex relationships. Managerial action choices are hardly observable in a classic sense. In the managerial context the issue of goal congruence is also predominant in the management accounting texts (Horngren et al., 2003; Antle and Demski, 1988). The bottom line is the agent (manager) wants to select a different action from the one desired by the principal (owner). This is the basic moral hazard problem.

In response to this problem the owner introduces an incentive scheme to make the manager select the desired action. The information supplied by the accounting system becomes important here as the payment is a function of the available accounting information and the additional contractible information signal. The owner's outcome might or might not be included in the accounting information. One reason for this asymmetry is that the owner's time horizon might extend beyond the accounting and other information available. This is in line with the net present value focus of the stockholders.

From an accounting perspective it is interesting that the information of value in this type of model is information about the act taken. That is, whenever an additional information source is available, it is useful or of value if it provides more information about the act selected (Holmstrom, 1979). The interesting information in this context is information that informs the parties about the source of the market imperfection, in this case the non-observability of the act selected. The fundamental goal conflict between the manager and the owner is essential for this result. If that were not present, the

manager would simply choose the first best action. Thus, the problem disappears when there is perfect goal congruence in the organisation such that there is no demand for incentive pay to promote the actions desired by the owners. This includes the tension between long-term and short-term profit measures. Control problems are important to accounting (Sunder, 1997).

The demand for information for control purposes is closely tied to the act selection. Thus, it depends upon the set of available actions how these differ in terms of the manager's preferences and in terms of the owner's preferences. One information system is preferred to another information system if it is better at providing incentives for the manager to select the desired action. Intuitively it translates into how the information systems are able to distinguish among the available actions. When the focus is on the accounting system it is also important to acknowledge the presence of alternative information sources. The value of a particular accounting system depends upon which other information sources are present. This is, however, only part of the story.

2.4. *Reporting incentives*

Managers are employed to make decisions. They are also supposed to collect and process information. And finally, they are employed to report information, for example, through the accounting system. Thus, part of the managerial job is to acquire information and this information is, unless disclosed, private to the manager. Some managers are even hired because they possess special knowledge, which is also private information. In all cases this adds to the imperfection of the relationship between the owner and the manager. Consequently, the contractual arrangements between the two become more complex in response to this private information. More interestingly, the timing of how the events unfold becomes part of the problem.

If the private information gets into the hands of the manager after the actions have been selected, there is no immediate control problem. The contract that controlled the actions of the manager without considering the new information will continue to do its job and induce the same action choice. However, a new option arises as it might be possible to allow the manager to communicate his private information to the public and thus make the information available for contracting purposes. Accounting information is often of this type as accruals are constructed at the end of a period.

Given the late arrival of this information it cannot be used for selecting the action. The communicated information can only be used for control purposes

as the information might be used to induce the efficient operation of the firm through incentive pay. The communication of such private information is constrained as the manager will only communicate signals that are in the interest of the messenger. Only the manager knows the specifics of the information and the communication is impossible to control directly. Thus there is yet another possibility for gaming by the manager. One way to resolve this is to make the owner offer a set of contracts to the manager. The manager is then supposed to choose among these. This is a revelation game and through his choice the manager reveals his private information. The use of the information for contracting purposes is limited to the use which is specified in the chosen contract. What is more important is that the owner has to commit to refraining from using the information otherwise. The communication is controlled by the other more primitive observable variables such as cash flows and by the potential use of the information for control purposes (Christensen, 1982). The accruals are used for communicating the private information of the managers, and reporting incentives have to be taken into consideration. Other information is used to control the reporting incentives.

If the information is available to the manager before the decision process is finished, the information has the potential of informing and thus directly influencing the decision. This might also be the very purpose of hiring a manager in the first place. There is then a potential for using the information in the evaluation process as in the previous case, but in addition to that there is also a possibility for the manager to use the information in the decision-making process. The double use of the private information has an impact on the control problem as that might be improved or made worse. In extreme cases, the private information might be of negative value to the firm. The information from the manager can be extracted in the same way as above but more complicated incentive issues have to be taken into consideration (Christensen, 1981).

Communication of private information is possible both inside and outside the accounting system. Communication within the accounting system is limited to financial information. The initial recording of a transaction takes place inside the accounting system. This information is then often combined with the manager's private information from outside the accounting system to form accruals. The accounting system handles this combination using consistency as a controlling device. Depreciation is a good example of how management's expectation

is entered into the accounting system as an accrual. The initial recording is historical cost and the depreciation follows a predetermined plan according to the expectations of management. During the lifetime of the investment the managers might learn more about the profitability of the investment. The normal accounting treatment will not allow such information to enter the accounting system. Only hard evidence is accepted as an excuse for changing the depreciation plan. Modern times call for fair value to enter the accounting system. Fair value accounting constitutes another example of accounting control and here it is historical cost combined with market data that forms the accrual. Management has private information concerning the market value when considering firm-specific assets. Market value is not always exogenously given and users of financial statements have concerns about the completeness of the market search performed by management. The control problem is easy to solve when there is a well-functioning market for the asset in question. Then it is routine to report a market-based value of the asset. When the market is less well-functioning, evidence has to be present to defend the accounting treatment.

The communication might also take place outside the accounting system and then the communication is free of the rules, regulation, and conventions that govern the accounting system. This information channel is heavily used by modern corporations, and security regulation is in place to regulate the sharing of information among market participants. The content of the communication is subject to market control, and the published financial statements are certainly part of the set of controls.

2.5. Auditing

Auditing is an important part of the controls that allow private information to be communicated to the decision-makers. The auditor might have two functions: that of a quality control and that of an independent actor who provides credibility to the report (Kinney, 2000). Given the regulation which surrounds the auditing profession, the latter task must be very important. The first task could easily be carried out by a person who is directly employed by the firm. The latter task calls for independence (Antle, 1984).

The auditor usually has a disadvantage compared to the manager of the firm when it comes to information about the firm. If reporting incentives were trivial, the manager's self-reporting of firm-specific information would clearly dominate any information that the auditor could provide. It is also

noteworthy that the auditor only provides an opinion of the published financial statements. Thus, he is not producing the information himself but only verifying the content. Given the problematic reporting incentives of management, this function increases the information content of the published statements (Christensen and Demski, 2003). A consequence of this finding is that it is very important that the information contained in the accounting system can be audited. In that way, audit ability also becomes a constraint on the accounting system.

3. Demand for information

3.1. *The users of financial statements*

The demand for accounting information, even for a simple firm and only considering the owners (and potential owners) and the manager, is quite complicated. The present and potential owners have investment decisions as well as control decisions. The demand for information depends upon the future cash flows, the control problem that is faced by the organisation, the access of the two parties to information, whether there is any private information, and the possible observables to be used in contracting. The usefulness of communicated private information is very sensitive to all of these factors. Consequently, even at the firm level, the demand for information and the optimal choice of accounting information system will be very specific to the firm characteristics. The demand for information is partly a response to the frictions in the markets faced by the firm and the interrelationship among the available sources of information, the goal congruence of management, and the constituents of the firm and the incentives. A minor change in one information source might have dramatic consequences for the information content and the use of accounting accruals. The reporting incentives are hard to control. Thus there is no universally best way to manage the reporting of the firm. The choice must reflect a cost benefit comparison in order to reach an optimal system (Christensen and Demski, 2003).

The information content of the accounting system is mainly firm-specific information providing the investors with input for their investment decisions. Most of the information contained in the accounting system is endogenous to the firm but some pieces of information are the consequence of the mixing of endogenous and exogenous information. The prime example of this is fair value valuation, which includes market information.

Modern finance has taught us that a rational, risk-averse investor invests in a diversified portfolio of

assets. The Capital Asset Pricing Model (CAPM) has informed us that the main ingredient in the pricing of a security is the association of the security and the market portfolio such that the correlation between the security and the market portfolio, i.e. the beta, accounts for the pricing of the security (Beaver, 1998). The investor will demand a risk premium for the market risk that is associated with investing in a specific security. The firm-specific risk will be diversified and the result is that this part of the firm-specific risk disappears from the equation. The investor may also want information about firm-specific risk in order to diversify, particularly if he has non-diversifiable endowments (e.g. property investments or skills). Consequently, the investor's demand for information concerns the risk and the correlation of the firm return and the market return. This is not the type of information which is given the highest priority in the accounting system.

On the supply side, the accounting system contains financial information about the activities of the firm. The data are initially collected within the firm as transactions. Later, revaluations and accounting accruals are added to the system. As a result, some data are hard data in the form of realised cash flows, and other data are of a softer nature as the accruals are based upon the expectations of management, perhaps inspired by exogenous events like price changes. A general characteristic of the accounting information is the stamp which is provided by the auditor of the firm. The accounting system has the comparative advantage that it produces firm-specific information primarily about the firm's financial position.

Thus the accounting information is not in demand by the general investor who follows the advice to invest in well diversified portfolios. Rather, accounting information is useful for persons who are placed (for some reason) in a speculative position. Some investors look for information about future cash flows to identify when it is optimal to exchange the investment for cash. Another group of investors look for stewardship information to induce efficient operation of the firm. There is not a generally best accounting system across firms (Christensen and Demski, 2003). The optimal information system is unique to each relationship, and the accounting system has to compromise among the users and producers. A choice also has to reflect the preferences of the stakeholders of the firms and it has to balance the possible uses of the accounting system. Furthermore, as Arrow's theorem suggests the non-existence of a social welfare choice function, the choice must be the result of a political decision process (Arrow, 1951, and

Demski, 1973). The exposure draft, (FASB/IASB, 2008), acknowledges this dilemma more specifically than the extant IASB and FASB conceptual frameworks, as it identifies the capital providers as the primary users (para. OB5 to OB8). Capital providers' demand for information includes both the ability to generate future cash flow and the ability to protect and enhance the investments. The focus on reporting incentives could be stronger.

This is further mixed with a public goods problem in the sense that once the information is produced and the cost for that is incurred, the information is a free good. Consequently, if left alone, the market would end up with an under-supply of accounting information. This creates a lemons problem (Akerlof, 1970) in the market for the assets of the firm and there is a demand for regulation of the supply of firm-specific information. If the signalling behaviour is important the result might be an oversupply of information.

3.2. *Multiple uses of financial information*

According to the discussion of the reporting firm, accounting serves two purposes: decision and control. Information for decision purposes is information that enables the decision-maker (an investor) to estimate the future cash flows for investment decisions. This means information that feeds into the net present value calculation. Different signals lead to different decisions. Information for control purposes informs the decision-maker about the 'act' selected by the manager of the firm. Here the important characteristic is the ability of the information to provide information that enables the owner to distinguish the desirable from the undesirable action. The purpose of this is then to allow the owner to provide incentives for selection of the desirable action. The two purposes are not identical and the rankings of information systems according to these two purposes do not necessarily coincide. This means that when faced with a choice among a set of information systems, one information system might be preferred for one purpose and another might be preferred for the other purpose. This implies that there is not one universally optimal accounting system independent of the use of the information (Gjesdal, 1981; Christensen and Demski, 2003).

One way to proceed is to consider several accounting systems – one for each purpose or user group. Generically that could be one for control purposes and one for decision purposes serving the stockholders of the firm. In this way, the accounting system could overcome the incentive issues raised previously as management will only communicate

information which is in its own best interest for control purposes. Separating the two sets of reports will remove this conflict. Unfortunately this is not a viable option. Management will only communicate everything if the users are able to and will commit not to use the information too aggressively. Given the separation of management and stockholders, it is hardly possible for the owners to commit to such a policy. Bad news in the decision information domain will at some point spill over to bad news in the control domain and thus the incentives for complete and truthful communication in the decision domain break down. Therefore, we cannot expect that a separation of the user groups and their reports will lead to an accounting system for decision-making which is free from the bias introduced by the incentives of management.

4. **The properties of accounting information**

4.1. *The qualitative characteristics of financial statements*

The qualitative characteristics of the conceptual framework are the attributes which make the information useful to users according to the conceptual frameworks of the IASB (IASB, 1989) and FASB (FASB, 1980a, 1980b, 1984, 1985). This is the important link between the information source and the users. The qualitative characteristics then function as a proxy for the users. The details of the decision problem are replaced by the qualitative characteristics. As noted earlier, the origin of the qualitative characteristics is related to the decision orientation of accounting and was stated in the ASOBAT report (AAA, 1966). These qualitative characteristics certainly describe the attribute for a useful information system when it is used for decision-making purposes in a one-person world. The inherent multi-person nature of most accounting issues is ignored. The question to be analysed here is whether the qualitative characteristics can replace the users when the regulators are deciding upon accounting standards.

Focus first on the pair 'relevance' and 'reliability' as these attributes have hitherto been identified as the most important ones (although 'reliability' is replaced by 'faithful representation' in FASB/IASB, 2008). The IASB conceptual framework (IASB, 1989: para. 45) calls for a balancing between qualitative characteristics but offers little assistance beyond a reference to 'professional judgement'. In the wording of the Exposure Draft (FASB/IASB, 2008), 'Enhancing qualitative characteristics improve the usefulness of financial information and should be maximised to the extent possible' (para. QC 25). In order to analyse this balance,

briefly consider the model of Feltham and Xie (1994). They consider a multi-task agency model. The manager faces a two-dimensional task and is supposed to select an action pair $a = (a_1, a_2)$. The owner wants to maximise expected profit $\Pi = b_1a_1 + b_2a_2$. The accountant has to choose between two different information systems. The first will report a profit of $p_1 = b_1a_1 + b_2a_2 + \varepsilon_1$ and the second will report a different profit of $p_2 = c_1a_1 + c_2a_2$. The first information system weighs the two actions according to the objective function of the firm but has noise as well. The second has no noise but gives a biased profit compared to the objective of the firm. Thus the first information system scores high on relevance and low on reliability. The second is very reliable but less relevant. Using the two information systems for contracting purposes illustrates the consequences of a second best world. Using the first profit measure leads to a deficiency. Providing incentives to work imposes a non-trivial risk upon the manager and consequently he requires a risk premium in his pay for performance contract. The second information system leads to a decision from the manager which is not aligned with the first best choice as the mix of the two actions is skewed. This is also inefficient. Consequently, there will be different costs associated with the two information systems. The first will include a risk premium and the second will reflect the unbalanced weighted decision. Now perform a comparative static analysis. If b is small (compared to ε_1) the second information system will be optimal. If b is large (compared to ε_1) the first information system will be optimal. The information systems including the relevance or reliability characteristics are not changed,¹ yet the optimal information system changes as a consequence of the difference in the underlying decision problem. The optimal choice is not accurately described by the pair relevance and reliability. Wagenhofer (2009) makes a similar point.

To take the analysis one step further, the concept of faithful representation or neutrality is considered. Faithful representation means that the transactions and other events should be represented in the financial statements in a way it purports to be. This takes away any consideration of managerial incentives to control the information system. Yet it is widely acknowledged and documented that there is a phenomenon called earnings management and that this takes on many forms. This has been

documented in many and very different ways (Dye, 2002; Nelson et al., 2002; Demski, 1998). The next level of earnings management has led to the emergence of something that might be labelled designer transactions, which stands for transactions that just satisfy a set of conditions to qualify for being accounted for in a specific way. The Enron case was a huge system of such designer transactions. The point is that the focus on qualitative characteristics skips over the finer details of the decision problem and in this case over the reaction of those making the reporting system once a regulation is in place. They might design transactions to circumvent the regulation. The regulators must consider the incentives of the information producers to maximise the result of the regulation effort. Furthermore, this might lead to optimality of non-neutral standards and non-neutral accounts as suggested by Dye (2002) and Christensen and Demski (2007).

The qualitative characteristics work as a way of simplifying the decision problem faced by the regulators as the finer details of the accounting decision problem including preferences, decision problems and information environment are simplified into only viewing the qualitative characteristics of accounting information. This appears to be too simplistic as it blinds the regulators to incentives that are inherent in the system producing accounting information and to the more delicate trade-offs that the regulators (and information producers) are facing.

4.2. The fundamental properties of financial statements

In very general terms, the purpose of financial statements is to provide information for the constituents of the firm. This is a very broad purpose, yet financial statements have some very fundamental properties which will remain no matter the regulation. Some of these will be discussed in the six points below. First, the optimal reporting for the firm is unique to the specifics of the firm. Second, the general purpose of accounting information is usually cast in the wording of decision information and stewardship information. The bias introduced by the stewardship use of accounting information will always remain. Third, the accounting information specialises in firm-specific information, and mainly investors holding a speculative position benefit from financial reporting. Fourth, the accounting information is inherently late compared to other information sources. Fifth, the accounting system does not exist in a vacuum. Other information sources are present and the purpose of the

¹ It is suggested that reliability is replaced by faithful representation in FASB (2008). This replacement does not change the argument as the interpretations of reliability and faithful representation are identical in the proposed setting.

accounting system cannot be analysed without considering the existence of other information sources. Sixth, the financial statements are audited by an independent auditor. This implies that accounting data are hard to manipulate. Eventually a synthesis of these points will lead to the identification of the role of the conceptual framework.

Following the earlier discussion of the reporting firm, the main content in financial statements is financial information about the firm. This follows from the historical development and it also reflects the comparative advantage of financial reporting. Furthermore, it was concluded that the optimal information system, which balances cost and benefits of the information system, is highly specific to the details of the specific reporting situation. This includes the decision problems faced, the information present, and the distribution of this information among involved parties. There is no universally optimal information system independent of the specifics of the reporting situation.

Furthermore, it is well established that the rankings of information systems for decision purposes and stewardship purposes are not aligned (Gjesdal, 1981). As argued earlier, it follows from the institutional setting that it is impossible to have two different financial reporting systems – one for stewardship purposes and one for decision purposes. It is impossible for the users to commit to not using the decision-relevant information for stewardship purposes as the use of the information system is decoupled from the production. Consequently, the situation-specific optimal accounting system will balance the pros and cons of the information system for the different purposes. This suggests that there is always a bias in the accruals which is related to the stewardship use of the information.

Another point is how the accounting system best supplements the other, perhaps more timely, information sources that are found in the information society. The famous Ball and Brown (1968) diagram suggests financial accounting indeed provides information which is used by the market participants to value the securities in the market. Unfortunately, the diagram also suggests that only a small fraction (8% according to Lev, 1989) of the total information released to the market stems from the published financial statements. The market reacts to all kinds of information and this information is clearly timelier than accounting information. Yet most information sources are not regulated. Accounting information is heavily regulated and has an important effect on other information

sources. The financial report has a potential for controlling the information content in other perhaps more timely information sources.

The conceptual framework implicitly assumes that financial statements should carry all relevant information and thus it disregards the existence of other information sources. This view does not allow for a specialisation of the different types of information sources. The accounting system constructed in one way might be a better supplement to existing information sources than another accounting system that is supposed to stand on its own. The big question remains as to who is best able to aggregate the financial information with other sources of information which are available to the market participant. It appears to be too naïve to assume or conclude that this aggregation is best performed by the accountants. The famous Roll (1984) paper suggests that this should be taken seriously. Who would, at the outset, have expected the financial markets to outperform a set of meteorologists when it comes to forecasting weather in a small region of Central Florida? The market mechanism is an extremely strong information aggregator and it might, despite the fact that each of the market participants only has very noisy information compared to the firm, be very efficient at performing such an aggregation.

The final observation is that financial statements are unique in the sense that they are audited. That is, the private information of the firm is verified by an independent auditor before being entered into the financial statements. Consequently, only information that passes this filter is included (Kinney, 2000). This implies that financial statements are hard to manipulate and produce hard information that is useful in repairing inefficiencies in markets.

Where do these six observations lead? First of all, financial statements are not particularly suited to serve the diversified investor. Mainly to investors holding speculative positions will the financial statements be of value. Next, is the balancing of information to be included in and excluded from the financial statements? The first observation is that this is an empirical question as it is highly contingent upon the situation whether the accountant or the market is best at aggregating information. Routinely, the accounting system steps away from including investment in the future into the assets because the benefits are uncertain both with regard to timing and amount. The market has no problem in including such information into the valuation of securities. The second observation is that accounting information is inherently late by construction. Events have to take place and the entry into the

published statements has to be verified by an auditor. Numerous sources of information step in and fill the gap. This is evidenced by Ball and Brown's (1968) diagram and Beaver (1998).

This leads to the following question: why regulate accounting information when most of the information action is going on in the non-regulated regime of other information sources? These sources are perhaps regulated with respect to timing due to securities regulation but not with respect to content. One possible answer to that question is that the regulated accounting information serves as the information source which 'controls' the other information sources. Then all free voluntary information disclosures are at the time of financial reporting compared to the published financial statements. If they are consistent it is viewed as good news, whereas inconsistency is regarded as bad news. The information content of the voluntary disclosure is a function of the control that is built into the accounting system. The financial statements serve an important role in controlling such information.

5. Accounting regulation

5.1. *The purpose of a conceptual framework*

Before going into the specifics of the present and proposed conceptual framework it might be useful to consider the stated purpose and scope of the conceptual framework. The purpose of the present IASB conceptual framework is to assist the Board in developing future accounting standards, to assist the Board in promoting harmonisation of regulations and accounting standards, to assist national standard-setters, to assist auditors in formulating opinions, and to assist users (IASB, 1989). The FASB states a similar purpose (FASB, 1980b). Thus, the purpose is twofold. One is to help the standard-setter to develop future standards, and the other is to help those producing and using the financial statements. A framework could be regarded as a constitution defining the general principles for the development of accounting standards in the regulatory domain and for the information content of financial statements in the users' domain. To fulfil this purpose a framework should be invariant over a long period and formulate the general rules which constitute the core of financial reporting.

As already indicated, the IASB and the FASB are jointly participating in a project that is intended to lead to a new conceptual framework which unites the two frameworks of the two institutions. This work is in progress and many preliminary working papers have been released for comment. In the

exposure draft of the joint Conceptual Framework (FASB/IASB, 2008) the purpose is reformulated as establishing concepts that underlie financial reporting. The framework is thought of as a coherent set of concepts that flows from an objective. Many questions are being asked and not many have an immediate answer.

5.2. *Coordination of the financial statements*

The research activities of the universities serve the implicit regulation of accounting. Most of the ideas which form the basis for our thinking of accounting issues stem from the research community. The notable contribution of Paton and Littleton (1940) on corporate accounting standards provides a deep insight into the fundamental and problematic issues of income measurement. Also the American Accounting Association's Committees on Accounting Reporting have had some influence, most notably the ASOBAT (AAA, 1966) report.

The research industry is not well coordinated. Consequently, a set of definitions of the elements of financial statements is part of the conceptual framework. The elements are the assets, the liabilities, the equity, the income, and the expenses. The framework also provides definitions of recognition rules related to the basic elements. Finally, the general rules of accounting measurement are included in the conceptual framework. Taken together, the definition of elements of financial statements is thought to govern the inclusion and exclusion of information in the financial statements.

Analysing the demand for accounting information for a specific entity leads to a specific optimal information structure. The accounting system has to be finely tuned to the specifics of the organisation and its environment. The flexibility of the accounting system is a key to its success as an information system. Within the general framework of accrual accounting there is room for many variations. This allows feeding the expectations of management into the accounting information in a controlled way. Too much regulation would destroy this flexibility and leave the accounting system useless (Christensen and Demski, 2003).

The optimal accounting information system will fill the gap left between the private and public information to induce optimal decision-making in the most general sense. Provided there is a well-defined social preference relationship this information will possibly be unique except for the representation or the scaling of the information system. Sending a message from one individual to another might take on many equivalent forms, e.g. using different languages. The important function of

financial statements as an information source is that the users are able to invert the mapping that produces the information in the first place such that the user learns the primitive underlying state realisation or event (set of events) (Antle and Demski, 1989; Demski and Sappington, 1990).

As the world contains many firms and many decision-makers, there is a demand for coordination of the scaling or representation of the information. This would serve the purpose of coordination among different users of the information such that the information might be understood by a broader audience and not coded for a specific user. In the framework this is equivalent to the set of definitions and the set of elements which constitute the financial statements. No doubt this demand for coordination is real. The demand could be satisfied in the financial statements as a description of the applied accounting methods. The textbooks or professors are other candidates for taking care of this coordination. Given the anarchistic and innovative nature of both, this is probably not a good place to do the coordination. National regulation will not do the job either, given the open society. Consequently, this job is best served by the international accounting regulation.

As noted previously, the current view is that financial statements provide financial information about the firm. The format of the information system is defined as accrual accounting and universally agreed upon. Pointing this out belongs to a long-term valid conceptual framework. The specific definitions of what constitutes the elements of the subsection of the financial statements are subject to change as part of an evolution and might be better placed in the standards.

5.3. *A conceptual framework*

There is certainly a demand for accounting regulation as a market failure can be observed in the market for information supply. Those who possess the information might have poor incentives to disclose such information and the market is also haunted by a lemons problem as suggested by Akerlof (1970). The literature on the demand for regulation of financial statements is vast and a recent summary of the arguments is given by Bushman and Landsman (2010).

Now to the initial question of how do conceptual frameworks contribute to the quality of corporate reporting regulation? The conceptual framework can be viewed as the constitution (statement of fundamental laws and principles) that keeps control over the process of accounting regulation. A constitution should have long-term validity and it

should not be changed in response to small changes in the workings of society. This calls for a rather robust wording of the conceptual framework. However, this is not the way the present conceptual framework is set up. It is far too detailed and might consequently fail in its purpose, as observed by the AAA committee on Financial Reporting (AAA, 2009). I share their view.

A conceptual framework should function as a constitution to remind the regulators of the overall goal of financial reporting such that the details of individual standards are kept in line with that. Therefore a conceptual framework should contain that goal. As found earlier there is not unanimity among stakeholders on this issue and it is part of a political process. Thus it is impossible to define what is meant by quality of corporate reporting objectively and often we are reducing this question to one of measuring the cost and benefits of regulation as in Schipper (2010). The regulators are supposed to balance the pros and cons of introducing or revising a standard. The overall goal is to find a socially optimal level of disclosure of firm-specific financial information which leads to well functioning capital markets and to efficient firms. Rather than providing a set of qualitative characteristics which does not guide the regulatory process, as noted earlier, it would be more useful to state the perceived comparative advantages and the perceived limitations of financial statements.

One of the advantages of the accounting system is that it is audited, which makes the information hard to manipulate. This is important given the role accounting plays in reporting otherwise undisclosed information and in controlling other sources of information. It might also flag that some pieces of information are hard evidence, whereas other pieces are softer, such as accruals. The latter are reported by management but have an accounting stamp as the procedure for producing them lends itself to auditing. The usefulness of the pieces of accounting information depends critically upon the hardness of the data.

The limitations include the potential bias of financial statements. The word bias can be interpreted in two ways. One meaning implies that the statements do not represent the expected value of the asset, i.e. the reported value is not equal to the mean. It is admittedly a nice property that a measurement is free from bias, but any deviation from this norm does not constitute a major problem as that is easily resolved once the source of the bias is known. The troublesome part is the bias introduced by an involved party. Identifying and resolving this type of bias could point to the

importance of the incentives of management for the preparation and interpretation of financial statements. This would put these incentives in a central role when it comes to the development of new standards and when it comes to interpreting the financial statements of firms. Along these lines, the AAA committee has developed a few ground rules for a conceptual framework (AAA, 2009). The future development of the standards might benefit from allowing competition among standards and allowing firms to decide which set of standards they want to satisfy (Dye and Sunder, 2001).

6. Summary and conclusions

The conceptual framework has been with us for a long time and the regulation of accounting even longer. Much regulation has been a consequence of observed business failures (Clikeman, 2009). The globalisation of business has led to a call for harmonisation of accounting standards around the globe and as a result the FASB and IASB have joined forces to make one set of accounting standards. One of their joint projects is a common conceptual framework (FASB/IASB, 2006, 2008). Consequently, the present interest in the development of a new framework is seen.

In this paper I have reviewed the demand for a conceptual framework from an information economics perspective. This has been a broad analysis. The point of departure was supposed to be the consequences for the quality of financial reporting of a conceptual framework. This is a very difficult question as the notion of quality is very hard to describe in the first place and secondly because the roles of allocation between a conceptual framework, the actual accounting regulation, and the information content in financial statements are not predetermined. Therefore, I have taken the path of analysing the role and content of a conceptual framework as a set of ground rules that is useful in the regulation of financial reporting.

The focal point of a conceptual framework must be the comparative advantage of accounting. Accounting is an information source which is always produced late in a decision process. That stems from the fact that a main characteristic of accounting information is that accounting data: (1) are based upon the financial relationship of the firm with outside parties and upon formal recognition rules; (2) are subject to auditing; (3) acknowledge the role of other, perhaps more timely, information sources; (4) aggregate and allocate information over time and units; and (5) are hard to manipulate. It is an important role for the conceptual framework to

help the accounting system in maintaining the comparative advantage.

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Discussion of ‘How do conceptual frameworks contribute to the quality of corporate reporting regulation?’

Paul Boyle^{*}

I am a practitioner who has long had an interest in the academic aspects of accounting, perhaps more so than many practitioners, an interest stimulated by some very inspirational professors at the University of Glasgow 30 years ago. I have a lot of sympathy with Keynes’s comment that ‘practical men who profess to despise theory are usually slaves to some defunct economist.’ There is an accounting version of that too.

I have to say that I struggled to understand the point in this paper. It was a little disappointing to me because the question in the title of the paper is a really interesting one, and I really, really wanted to know the answer. However, having read the paper and even now having listened to Professor Christensen’s presentation, I struggle to find the answer to the question. In fact, if I were to put on my former hat as a regulator, I might even say there has been a bit of mis-selling here in the title of the paper, because quite a lot of it was devoted to what I found to be a highly stylised and theoretical analysis, which then I struggled to find the relevance to the points made in the rest of the paper. There was a lot of discussion about the principal and agents problem, a world in which managers negotiate with owners about the terms of the disclosures that they might make – not a world that I as a practitioner recognise.

Then suddenly the paper switched to a completely different world view, the world view of finance theory and perfect capital markets in which highly diversified investors have no interest at all in the specifics of accounting information for individual firms. So I struggled to understand which of the

two world views this paper was based on, and, in any event, both of the views postulated were ones which I did not recognise from the world of practice.

One of the points that Professor Christensen emphasised throughout the paper, and indeed the one he finished with, was the question of incentives, and he criticised the current attempts to prepare a central framework for ignoring the incentives on market practitioners.

Of course, it is also worth drawing into this discussion the incentives faced by the regulators. I am including in this case the accounting standard-setters. Having been a regulator for a number of years, I know that one of the problems that you discover as a regulator is that there are literally thousands of people who know how to do your job better than you do. There was quite a bit of discussion during an earlier stage of this conference about the extent to which accounting standard-setting was becoming politicised. Generally speaking, the view was that the politicisation of accounting standard-setting is a bad thing, something to be deplored.

It is in this context that I see the conceptual framework having its greatest potential value because a conceptual framework, properly and carefully developed, providing a sound basis for the drafting of accounting standards, is one of the greatest potential saviours of accounting standard-setting from politicisation. If there is a sound conceptual framework then the basis for the standard-setting decisions can be more widely understood, not only by politicians but also by other market participants, and hopefully will make the actions of the standard-setter more defensible.

It is a question of the relevance of the conceptual framework to the real world that interests me, and in that respect one of the suggestions in the paper which I found most surprising was the proposition that one of the components of the conceptual framework, namely the definitions of the elements

^{*}The author is a former Chief Executive Officer of the Financial Reporting Council and an Honorary Professor in the Department of Accounting and Finance at the University of Glasgow. E-mail: pvboyle@talk21.com

Editors’ note: Paul Boyle’s commentary relates to the version of Christensen’s paper presented at the International Accounting Policy Forum conference in December 2009. Christensen subsequently made amendments to his paper for publication in response to an academic reviewer’s comments.

of financial statements, was not a matter which should properly be included in the conceptual framework but rather was a matter which should be left to individual standards. For example, the proposition in the paper is that the definition of an asset should not be included in the conceptual framework but should be included in individual standards and would change from time to time.

I must say, I find this a proposition which is both theoretically unsound and also likely to be catastrophic in practice. Can you imagine a world in which the definition of an asset would change from one standard to another? How are practical people to be expected to operate in such a world?

There are however some good points in the paper which I think should be developed further: the point about the comparative advantage of accounting over other sources of information is a really interesting point which is of great practical relevance to accountants and auditors, and indeed to those people involved in the official sector who care about accounting.

I will finish with one point that is addressed to all of the academics in the audience: I beg you to produce work that is of relevance to practitioners. There are two reasons why you should do this. First, practitioners, especially those who despise theory, desperately need your help. They need the benefits of the intellectual rigour that you can bring to their work, but it needs to be done in a way that is relevant to the real world. The second reason is that you need to do this to help yourselves. In this tough time of financial crisis, when money and resources are scarce, do not be surprised if there is much greater scrutiny of the value for money of work being done, and especially if it is work being done with other people's money, namely taxpayers' money. Do not be surprised if they subject this to more intensive scrutiny than in the past.

I guess on this point it comes down to a question of the incentives facing the academic community, and perhaps that is a point on which Professor Christensen and I agree.

Conceptual frameworks of accounting: some brief reflections on theory and practice

Richard Macve, LSE*

Two very different approaches to evaluating conceptual frameworks (CFs) for accounting are set out by Christensen (2010) and Boyle (2010).¹ Christensen reviews a body of research, primarily theoretical and based on ‘information economics’, which has explored the potential role and ‘comparative advantage’ of standardised, audited financial statements in a setting where shareholders and managers (formally characterised as ‘principals’ and ‘agents’) are making investment decisions and are implementing performance-based compensation contracts. To make the link to published reports as the primary focus of standard-setters’ CFs and to stock exchange investors, Christensen explores these problems within a competitive market setting (formally characterised as ‘efficient’) where multiple information sources are utilised by multiple information intermediaries, such as analysts and financial journalists, as well as by investors themselves. The major insights from his review are that two distinct functions of accounting, namely, providing useful information for investment decisions and providing control information for monitoring and rewarding managers’ performance, are demonstrated ideally to require different kinds of accounting measures (in particular with differing degrees of relevance and reliability). ‘Moral hazard’ results from managers having ‘proprietary information’ about the firm, i.e. knowing things that owners and other outsiders do not know unless the managers tell them, and therefore being able to hide the full story if they choose to act opportunistically in their own rather than owners’ best interests. Even if separate accounting bases were employed for each of the distinct functions, the moral hazard means that inevitably the two kinds of reporting ‘infect’ each other. The outcome is that setting just one satisfactory body of accounting standards that has to cover both will be extremely problematic, given managers’ own incentives. Moreover, setting rules that

will be the same for all companies inevitably loses the particular balance of characteristics of information requirements that would be optimal for each individual firm, and there has to be a political decision as to who will benefit and who will lose.

Furthermore, by the time published, audited, accounting reports appear, it is likely that there will be little ‘news’ in them. That conclusion has been supported by empirical evidence since Ball & Brown’s famous 1968 paper. However, this does not mean the accounting reports have no value. Managers know that after the end of the year they will have to release the audited accounts to their shareholders and other investors. This will itself constrain the information released during the year to be as consistent as possible. Their actions are also constrained by the information they know will eventually be reported. Hence accounting information plays a role in controlling agency costs.

Christensen therefore argues that the qualitative characteristics (QCs) that are a feature of all the frameworks to date (both national and international) are too crude to help in calibrating the actual trade-offs that need to be made. The same can be said of the high level definitions of ‘elements of financial statements’ and, one might add, the ‘recognition criteria’. Moreover, from an information perspective, there is no inherent superiority in any one basis of measurement: choices should be made of ‘horses for courses’ in individual standards and therefore there is little value in including measurement in the CF. Christensen’s conclusion, arguing as he has from ‘the bottom up’, is that this leaves only the highest level of the CF as potentially fulfilling a useful role, in setting out what he calls a ‘Constitution’.² By this he means the broad objectives that the standard-setters will pursue, and

*The author is Academic Advisor to the ICAEW. The help of Min Qi, Brian Singleton-Green, Mike Page, Michael Bromwich and the editor is gratefully acknowledged.

E-mail: R.Macve@lse.ac.uk

¹ **Editor’s note:** Boyle’s commentary relates to the version of Christensen’s paper presented at the ICAEW’s Information for Better Markets Conference in December 2009. Christensen subsequently made amendments to his paper for publication in response to an academic reviewer’s comments.

² **Editor’s note:** This description should not be confused with the formal *Constitution* that governs the IASB Foundation and regulates the composition and conduct of the IASB.

principles they will observe, in writing rules for every major company around the world to follow.

Boyle, by contrast approaches the issue more from the 'top down' perspective of a regulator and finds it hard to relate the context of Christensen's 'bottom up' world of 'primitive' firms to his arena. Here the accounting rules of IASB and FASB are primarily for large, listed companies, with boards of directors and hierarchies of management reporting publicly to widely dispersed shareholders. Alongside the financial institutions there are passive, small investors for whose protection much of the regulation has been designed. The insights from 'agency' models seem difficult to scale up to such a multiperson world – but cf. ICAEW (2005). The 'efficiency' of unfettered markets in providing full information flows to all parties is questionable (as the global financial crisis of 2008 has reminded everyone), and regulation is needed because even non-speculative investors, who need to balance their investment portfolios, want to know that individual firms' risks are fully and fairly reflected in their market prices. If the public, through the government, are to give standard-setters, such as IASB, the power to set mandatory standards then they need to be assured of their independence, their balanced representativeness, and above all their intellectual credibility and technical competence. The constitutional relationships between the IASC Foundation and the IASB (and, in the EU, the requirement for endorsement prior to adoption of new standards) are designed to cover the first two of these concerns. It is in respect of the third that the CF has its own important role.

Arguments for and against regulation per se and over how costs and benefits of alternative accounting rules are to be assessed are covered in the papers by Bushman & Landsman (2010) and by Schipper (2010) presented in the conference to which Christensen contributed. Leuz (2010) explores the importance of the national and institutional contexts in shaping accepted and acceptable forms of accounting; and Moran (2010) reminds us that the delegation of powers to non-government bodies is itself a political decision, and the balance between the two may emerge differently at different times and in different political jurisdictions, so that international regulation introduces a yet higher level of complexity.

Here I will pursue Boyle's argument that the CF is needed to demonstrate the technical credentials of the IASB (or FASB). New IASB Board members have to sign up to the CF. Boyle appears to think that it is the current type of CF that is needed. Consequently, as he asserts, definitions of elements

such as 'assets' are a required part of the CF to ensure as much consistency as possible across time (not least as Board members change). These arguments have had a long currency, ever since FASB began its CF project in 1974 (Macve, 1981).

However, we should note that in Boyle's 'real world', what is recognised in accounting as an asset (and correspondingly as a liability) and how it is measured frequently changes as standards change. Consider for example: the current proposals on leases; recent US recognition of 'in process research and development' at acquisition date as a continuing asset in its standard on business combinations; removal of 'acquisition costs' in business combinations and (proposed) in life insurance accounting; pension liabilities; and proposals to change IAS 37 in respect of what used to be called 'contingent liabilities'. Assets may be treated inconsistently within current standards, e.g. 'acquired' and 'internally developed' intangibles such as brands and goodwill; a new subsidiary's assets at the date of acquisition (including intangibles) identified and measured at 'fair value' while the holding company's equivalent assets remain unrecognised or valued at (depreciated) historical cost. Other changes in the reporting of income have not even resulted from recognising net asset changes. Consider for example the expensing of executive stock options (Bromwich et al., 2010) or the latest proposals on 'revenue recognition' (Macve, 2010). It has long been argued that seeking such higher-level definitions, and believing that the levels of the CF must form a deductive logical sequence concluding with clear, consistent 'high quality' standards, represents a serious failure to understand the insights of the modern philosophy of language (e.g. Kitchen, 1954; Macve, 1981; Sunder, 2007; Dennis 2006, 2008).

Christensen also analyses rigorously the role of QCs and demonstrates why it has long been argued that they are little more than common sense 'rules of thumb' and do not deserve the repeated reshufflings of their meanings and rankings that have occupied much space in successive versions of the CF (e.g. Chambers, 1964; Macve, 1981). CFs have also thus far stumbled over the crucial measurement stage. One honourable exception is the UK ASB's (1999) *Statement of Principles* which, while retaining advocacy of a 'mixed measurement model', argued that current values should be 'deprival values' (see, e.g. Lennard, 2010; Macve, 2010 and Whittington, 2010).

In comparing Christensen's and Boyle's approaches we may note that Christensen's literature citations largely reflect US sources. Here I

reflect briefly on how far UK literature has supported his approach vis à vis Boyle's. The 'information economics' approach to analysing accounting problems and voluntary disclosure is clearly set out in leading textbooks such as Bromwich (1992), which also covers the economic arguments in favour of regulating the mandatory provision of accounting information (including problems of 'public goods' and cost structures of disclosure), and the conceptual difficulties in deriving an unambiguous, practical notion of 'income'.

A major feature of current CFs is their ultimate focus on measuring income (and potentially components of income such as 'earnings'), even though they argue this is to be achieved through the 'balance sheet' approach of focusing on the recognition and measurement of assets and liabilities and of changes in them. Christensen notes that it is well known that the measurement of 'income' in the economist's sense of the change in wealth, or of the 'permanent income', is not achievable except in conditions where the knowledge would be redundant, so settling the definitions and measurement bases cannot achieve that goal (for fuller recent expositions of the reasons for this see, e.g. Bromwich et al., 2010 and Whittington, 2010). As the FASB's original CF project (and its subsequent imitations by, e.g. ASB, IASC and now IASB) can indeed be viewed as the culmination of a 'search for accounting principles' imposed on the accounting profession in the US in the 1930s at the instigation of the Securities and Exchange Commission (SEC) (e.g. Macve, 1983; cf. Zeff, 1999), it has so far remained part and parcel of the search for the 'best' definition of profit/income to replace what is seen as the untidy and incoherent tangle of assorted, historically evolved, 'conventions' that appear to lack conceptual justification (e.g. Chambers, 1964; FASB/IASB, 2005).

Even in the 1930s there was a 'British' voice in the US. George O. May of Price Waterhouse argued that better disclosure of information and of accounting choices was what was needed, rather than the attempted specification of detailed uniform accounting rules (e.g. Macve, 1983: 178–179). Perhaps May's position was undermined by the almost complete lack of explanation of what accounting policies were being used by UK companies at that time. That situation lasted until the advent of UK accounting standards in the 1970s (Zeff, 2009) and in particular the UK standard SSAP 2 *Disclosure of Accounting Policies* (ASC, 1972).

There remains an urgent need for a fundamental

rethink of what 'kind of thing' a CF for accounting should be (Power, 1992). It should probably follow Christensen's advice and stay at the 'top level'. It might focus, for example, on setting out the key factors and questions that the standard-setters would address and their approach to the trade-offs they would have to make (e.g. Macve, 1981). It could set out the need for 'practical reasoning' based on 'bottom up' investigation and understanding of current practices, evaluation of their continuing practical value (alongside their conceptual justification), and deliberation and consultation on potential for improvement. That could be more beneficial than attempting 'top down' logical deduction of 'correct' standards that the current kind of 'official' CF has conspicuously failed to deliver over the 35-plus years of its very expensive development (e.g. Dopuch and Sunder, 1980; Macve, 1997; Dennis, 2006, 2008). In a recent initiative, the members of the Financial Accounting Standards Committee of the American Accounting Association (Bloomfield et al., 2009) critique the extant frameworks and the IASB/FASB convergence of frameworks, offering instead a framework that meets their own preferred criteria. Their alternative adopts primarily an income statement approach rather than the FASB/IASB balance sheet approach.

We should not be surprised if such alternative kinds of CF lead to piecemeal, evolutionary improvements in accounting practice and disclosures rather than wholesale replacement by a new, much more logically consistent 'accounting model' (ICAEW, 2009). An interesting comparison is the standard QWERTY keyboard.³ It is inefficient, but universal (outside specialist typing competitions). An efficient keyboard would, from the beginning, have been centred according to the relative frequency of the use of the individual letters in writing the English language. However, it is widely believed that because this would have caused the original 'hammer' typewriters to jam, they had to be 'slowed down' by spacing out the most frequent characters. To help the marketing of the new mechanical writing machine, Remington, so the widespread belief goes, designed the top row so that it contains all the letters of 'typewriter' (plus Q, U and O for camouflage), which is the word the sales force would use in demonstrating the machine's superior speed. The trade-off between speed and mechanical efficiency was historically contingent on conditions at that time. Now the QWERTY keyboard is so embedded that we are still using it for

³ (<http://home.earthlink.net/~dcrohr/myths.html> [accessed 16 March 2010])

electronic machines, even though the most efficient layout to achieve maximum speed is now known for each language. QWERTY seems likely to remain until keyboards themselves are obsolete.

Does the same apply, e.g. to 'relevance' and 'reliability' of accounting numbers, given changing relative costs in different places at different times? The accounting model we have is the outcome of many such past trade-offs (Basu and Waymire, 2008). It is now so embedded in many spheres that it is not clear that, even if accounting theory could set out a CF for a 'best' model, we would find it worthwhile to adopt it, given the costs of transition. 'Fixing what's broke' may continue to be sufficient (e.g. ICAEW, 2009), especially if this is complemented by empowering users (e.g. through internet 'drilling down' to finer information levels) to tailor the accounting to their own needs so that they are not constrained by the straight jacket of the 'standard model' and can again become more like the freely-contracting actors in Christensen's scenario.

An alternative approach to retaining desirable flexibility, this time perhaps more to suit preparers' differing situations while providing a standard 'benchmark', is the option to 'comply or explain' familiar in the UK from the *Combined Code of Corporate Governance* (FRC, 2008: Preamble). Or again, relevant groups of preparers, e.g. large multinationals (a 'global players segment') as suggested by Leuz (2010), could be allowed to use models of a kind more suited to their own complexity (as they can, for example, in adopting the Global Reporting Initiative or other voluntary codes for sustainability management and reporting (Chen & Macve, 2010). Alternatively specialist industry groups might build their own supplementary models to supply more useful information than their IFRS accounts, as European insurers have done with 'Embedded Value' reporting for life insurance accounting (Horton et al., 2007). The advent in recent years of the opportunity for shareholders to vote on the Directors' Remuneration Report (e.g. in the UK and Australia)⁴ also increases the interaction between the users, preparers and auditors of published accounts.

Some concluding reflections

Christensen's analysis sets out some of the formal demonstrations that researchers have worked on

that bear out older, more intuitive arguments that there can be no ideal practical measure of income. Income measurement always involves estimation of the future (Edey, 1970). The demands of investor decision-making and control (and other contractual relationships) generally require different kinds of accounting (Edey, 1978). Accordingly, standard-setting is inevitably dealing with compromises and trade-offs, albeit in a world where little is known about the effects of these and their costs and benefits (Schipper, 2010; cf. Gwilliam et al., 2005). Difficult judgments must be made.

However, in viewing the existence of audit as implying that accounting data are 'hard to manipulate', Christiansen's characterisation seems oversimplified. Arguably, it is not in the routine verification of 'hard' data, but rather in 'guaranteeing' that investors and others can trust the relatively 'soft' estimates and judgments underlying the accounting (based on the auditors' wide knowledge and experience of many companies, coupled with their close contact with the audit client's management), that auditors can be seen as 'adding value' (Grout et al., 1994); while Power (1996) argues that much of what is 'verifiable' by audit is not 'given' as hard data but is socially constructed to be 'auditable'.

Accounting reporting and disclosure also have an important role beyond that of providing information for managers and individual investors in individual firms, or even when comparing firms. Standardised, audited accounts are part of a regime that defines the economic environment in a country, or across countries, and enables investors to have confidence in the system as a whole as one to which to entrust their money. This was the main justification given by Edwards (1938) in his call for a revolutionary reform of UK accounting practice. It seems as true today. In the view of the US SEC it is the overall regime of standards of corporate governance, accounting, auditing and enforcement in a country that lowers the cost of capital to firms in that economy and thereby stimulates investment and economic growth. This effect is probably greater than what any individual firm can achieve by improving its own accounting and disclosures (cf. Botosan, 2006).

In other words, the firms etc., in Section 2 of Christensen's analysis are 'given' (exogenous to the argument). But equally one can argue that firms are 'endogenous', i.e. partly created by the availability of good accounting and an appropriate regulatory regime. That is Boyle's concern, and has been the concern of UK Company Law, not only in the Company Law Review from 1999 to 2005, but ever

⁴ e.g. <http://www.companydirectors.com.au/NR/rdonlyres/8BC9DA27-DF5A-4955-9E95-EB6B4BC78E8A/0/ISSUEPAPERREMUNERATIONREPORT170305.PDF> (accessed 17 March 2010).

since the 19th century invention of 'limited liability' (Edey & Panitpakdi, 1978). It is interesting that such endogeneity is not currently admitted by the IASB, which takes the view that the stability of the current financial system is not a matter on which the standard-setter should be concerned.

There are mutually reinforcing insights to be gained from both 'bottom up' and 'top down' approaches. There will always be a creative tension between rigorous, abstract theoretical research and the current imperatives of practical and policy concerns. It is ironic that Boyle concludes by disparaging the kind of work outlined by Christensen when he begins his response by quoting Keynes's famous dictum, made when he was defending his own 'wild' theories against the objections of the 'practical men' of his day.

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How can we measure the costs and benefits of changes in financial reporting standards?

Katherine Schipper*

Abstract — This paper first describes the components of a conventional cost-benefit analysis, a decision tool that is widely used to evaluate large public-sector projects such as dams. It then compares a conventional cost-benefit analysis to the approaches used by financial reporting standard-setters and others to evaluate the costs and benefits of changes in authoritative accounting guidance. The last portion of the paper describes how accounting research provides analyses of effects of changes in accounting standards and describes how these effects-analyses differ from, and are similar to, a conventional cost-benefit analysis.

Keywords: cost-benefit analysis; financial reporting standards; capital market effects of changes in accounting standards

1. Introduction

This paper discusses a recurring and vexatious issue in financial reporting standard-setting: the practicability of analysing the costs and benefits of a given change in financial reporting standards.¹ That issue raises, at least, the following questions. First, why is analysis of costs and benefits viewed as desirable or, to put it more strongly, necessary as part of the process of establishing authoritative guidance for financial reporting? Second, to what extent are conventional cost-benefit analysis techniques applicable in the financial reporting context? Third, what approaches have been taken by accounting researchers and standard-setters to analyse cost and benefits, and what can we learn from their efforts?

I view the question of analysing the costs and benefits of a given change in financial reporting standards as a special case of the more general question of analysing the costs and benefits of a specific mandatory change in corporate reporting activity generally, for example, a change in frequency of required reports; a change in the amount of time permitted between the end of a reporting

period and the due date of a required financial report; a requirement that financial reports filed with a securities regulator contain a Management Discussion and Analysis. The broader issue that encompasses both financial reporting standards and corporate reporting more generally is the costs and benefits of having a mandatory system for financial reporting. I focus only on the analysis of changes in accounting standards and do not address the larger issue of whether financial reporting should be regulated and if so how and by whom, while recognising both the importance and the controversial nature of the larger issue. That is, I take as given that statutes and regulations in many jurisdictions require listed (and sometimes unlisted) entities to apply specified financial reporting standards, and I do not consider how other factors such as corporate governance concerns affect financial reporting standards. Although the analysis of costs and benefits of changes in financial reporting standards is but one (relatively narrow) issue in the overall question of how best to regulate corporate reporting, I believe that some of the ideas considered in this paper could be pertinent to the consideration of that larger question.²

This paper builds on Meeks and Meeks' (2001)

*The author is Thomas F. Keller Professor of Accounting at the Fuqua School of Business at Duke University, Durham, North Carolina, USA.

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Correspondence should be addressed to: Katherine Schipper, Duke University: The Fuqua School of Business, 1 Towerview Drive, Durham, NC 7708, USA. Tel: (919) 660–1947. E-mail: schipper@duke.edu.

¹ This paper is not intended to provide a survey or discussion of research that pertains to cost-benefit analysis generally, or the costs and benefits of financial reporting standards generally or the costs and benefits of a specific standard. I refer to published and unpublished papers only to illustrate certain aspects of my discussion.

² The regulation of corporate reporting is an example of financial regulation. There is a long history of research on financial regulation, and debates continue. For a recent survey, see Leuz and Wysocki (2008) who discuss a broad array of accounting, finance, economics and legal research that considers, among other things, the costs and benefits of regulating corporate disclosures.

review of certain issues involved, and techniques used, in measuring costs and benefits of accounting regulation.³ Their paper provides quantitative measures of certain costs associated with accounting regulation, including, for example, the operating budgets of accounting standard-setters and estimates of compliance costs based on preparer survey data for selected standards as reported by other researchers. They also provide estimates for certain other costs and benefits. Meeks and Meeks point to four sources of benefits from accounting regulation: reducing information search costs, signalling costs and contracting costs; and reducing the problems associated with market failures. In their discussions, therefore, they are considering the costs and benefits of standard-setting, compliance and enforcement combined, under the rubric of accounting regulation, and not necessarily the costs and benefits of any specific change in any of these activities.

With regard to the first benefit of accounting regulation, the reduction of information search costs, Meeks and Meeks estimate those costs as the difference between the costs of active and passive portfolio management; in their analysis, the amount is 0.15% of the value of UK listed securities in 1998. With regard to signalling costs, Meeks and Meeks point to research that identifies dividend payments as costly signalling mechanisms for managers to convey information to shareholders (presumably, in the absence of fully effective alternative mechanisms such as mandatory reporting) and capture the signalling costs of dividends as the tax penalty imposed on dividends, noting that this cost is idiosyncratic to a given tax regime. Finally, Meeks and Meeks discuss but do not provide a mechanism for quantifying the contracting benefits of accounting regulation. Meeks and Meeks also describe the well-known difficulties associated with the dissemination of false or misleading information, including the breakdown of markets as in, for example, Akerlof (1970).⁴

³ As discussed in more detail later, Meeks and Meeks (2001) use the term 'accounting regulation' to refer to financial accounting standard-setting, auditing/assurance and enforcement, and to refer to the overall system of regulation as well as, in some of their discussions, specific standards. In contrast, I focus on financial accounting standard-setting, including the distinction that a standard-setter such as the Financial Accounting Standards Board (FASB) or International Accounting Standards Board (IASB) lacks enforcement powers and is therefore not a regulator.

⁴ Akerlof (1970) describes a market in which goods may be honestly described or dishonestly described and argues that the dishonest market agents will drive the honest agents out of the market. That is, those who are willing and able to describe bad items as good items will deter legitimate buyers and sellers from transacting in that market. The total cost of this information

Meeks and Meeks provide examples, including quantitative examples, of analyses of specific costs and benefits of disclosure regulation generally (e.g. the tax costs of dividend signalling) and point the way toward additional analyses. In contrast, I focus on the concept of analysing costs and benefits and the extent to which this concept is, as a practical matter, applicable to financial reporting standard-setting and to the evaluation of a given change in standards. I also extend the discussion of how to measure the benefits of financial reporting standards to incorporate examples from recent academic research.

This paper is also related to the Financial Accounting Standards Board's (FASB) *Special Report: Benefits, Costs and Consequences of Financial Accounting Standards* (FASB, 1991). This lengthy report lays out several issues that I cover in this discussion paper, describes how the FASB thinks about costs and benefits (at least, circa 1991) and provides a fascinating transcript of a 1990 discussion of the measurability of costs and benefits of accounting standards among members of the Financial Accounting Standards Advisory Council (FASAC) and FASB board members. Allowing for changes in research designs and the refinement of both empirical techniques and measurement in accounting research, I believe the points made in the Special Report remain valid.

This paper is also related to surveys and discussions of research on causes and consequences of financial reporting and disclosure regulation generally. One representative recent paper is Leuz and Wysocki (2008) which surveys both certain theories of voluntary and mandatory disclosures and certain empirical research on the effects of voluntary reporting and disclosure decisions and on certain regulatory changes such as the adoption in the US of Regulation Fair Disclosure (Reg FD). Leuz and Wysocki (and other similar survey/discussion papers) are not specifically concerned with cost-benefit analyses of individual accounting standards. In some cases, they discuss research related to individual regulatory changes (for example, Reg FD and certain provisions of the Sarbanes-Oxley Act of 2002) and to wholesale changes in accounting standards such as voluntary or mandatory adoptions of International Financial Reporting Standards (IFRS). Relative to these broad surveys of academic research, my discussion paper is limited, being concerned only with financial report-

problem is the sum of the amount by which purchasers are cheated and the opportunity loss associated with the transactions that do not occur.

ing standards, and narrowly focused on the practicalities of cost-benefit considerations.

I make the following arguments about the practicability of measuring the costs and benefits of financial reporting standards. First, although the mission statements and conceptual frameworks of standard-setters such as the International Accounting Standards Board (IASB) and the FASB specify a costs and benefits constraint, and some of the authoritative guidance promulgated by these boards contains an explicit costs and benefits discussion, standard-setters do not, in fact, apply a conventional cost-benefit analysis. Second, a conventional cost analysis of a specific standard or standards may be possible (in the sense of doable) but the difficulties and attendant costs may be unreasonable, making the analysis impracticable in a financial reporting standard-setting context. Third, and in contrast to a view that the benefits of accounting standards are more elusive than the costs, academic accounting research has tended to focus more on assessing the capital market and financial reporting benefits of financial reporting standards and less on the implementation costs of those standards. However, the results of this research may be insufficiently nuanced and consistent to be entirely useful in a practical standard-setting context.

This paper is organised as follows. The second section describes some of the ideas that support cost-benefit analysis as it is conventionally used and the third section discusses the applicability of these ideas to financial reporting standards. The fourth section discusses possible approaches to analysing the effects of accounting standards, including how academic accounting research has attempted to quantify certain of those effects. The final section offers some concluding comments.

2. The purpose of analysing costs and benefits

Cost-benefit analysis is a variant of conventional capital budgeting techniques that are widely used to compare the costs and benefits of a potential investment project, for example, acquiring and using a new computer system. It is therefore an *ex ante* decision tool that is used before a project is undertaken. Modern cost-benefit analysis is generally traced to the 1936 Flood Control Act in the US, which required that the US government should engage in flood control projects 'if the benefits to whomsoever they may accrue are in excess of the estimated costs', that is, if the project has a positive expected net present value.

Formulated this way, cost-benefit analysis does not address the distribution of costs and benefits, but rather their existence and relative expected magnitudes, and it does not address the realised outcome of the project, but rather expectations about those outcomes.⁵

Cost-benefit analysis has become a widely used tool of public sector decision-making, often to assist in the evaluation of large, difficult-to-reverse projects such as dams, bridges and roads. It has been extended to include analyses of certain health and public policy regulations, where the benefits may be associated with hard-to-quantify outcomes such as lives saved or lifetimes extended.⁶ In the absence of a profit-maximisation rule, as is often the case for public sector projects, cost-benefit analysis provides a signal for resource allocation decisions.

A cost-benefit analysis of a public sector proposal enters the decision process after policy analysts have defined the problem to be addressed (or, alternatively, identified the public policy objective to be achieved) and identified feasible solutions or courses of action, including maintaining the status quo. The cost-benefit analysis will: (1) identify the time period of analysis, that is, the period over which costs and benefits are to be estimated; (2) identify the costs and benefits to be included for each alternative, including the status quo; (3) wherever possible, assign monetary values to each cost and each benefit; (4) discount the monetary values of costs and benefits using an appropriate discount rate. The resulting net benefit or cost of each feasible alternative, including the status quo, forms one input into the policy decision.

Factors that complicate a cost benefit analysis include difficulties in identifying the time period over which the costs and benefits are to be realised; difficulties in selecting the appropriate discount rate (particularly if the project in question does not have a physical or economic service life); difficulties in

⁵As discussed in the fourth section of this paper, empirical-archival analyses of the effects of accounting standards rely on outcomes data. These *ex post* analyses can be viewed as applying some of the ideas of a conventional cost benefit analysis in an *after-the-fact* context.

⁶I do not attempt to survey the voluminous literature on cost-benefit analysis. Interested readers may find it helpful to review Adler and Posner (2001). Examples of public-sector primers on how to implement a cost-benefit analysis, including examples and case studies, include Commonwealth of Australia (2006), New Zealand Treasury (2005) and Bank of England (2006). Of these, the Bank of England study of the application of cost-benefit analysis to the collection of monetary and financial statistics is perhaps most closely linked to the context of financial reporting standard-setting.

identifying costs and benefits, including scope (the groups affected); and difficulties in assigning monetary values to costs and benefits. Of these four sources of difficulties, the latter two appear to be the most discussed by financial reporting standard-setters. The complexity and subjectivity of a cost-benefit analysis increase as the benefits or the costs, or both, become more intangible and qualitative, and less amenable to direct measurement from market transactions. Examples of qualitative benefits in a public policy context might include taxpayer satisfaction from the installation of a system to support electronic filing of tax documents and citizen satisfaction from the ability to view beautiful scenery without obstructions.

Cost benefit analysis uses both revealed preference techniques (based on transactions amounts) and stated preference techniques (based on oral or written statements) to analyse these types of costs and benefits. A revealed preference method compares prices paid for goods and services with and without the cost or benefit being analysed to assign a monetary value to that cost or benefit. For example, to estimate the benefit of being in a good school district or the costs of being in an airport flight path, it is possible to evaluate and compare the selling prices of two otherwise similar houses in two school districts with demonstrably different quality and two otherwise similar houses except that one is in the flight path and the other is not. A stated preference method asks respondents for their views (preferences or perceptions) or perhaps asks them to assign a monetary value to a cost or benefit but does not require any action on their part.⁷

Using the results of a cost-benefit analysis to reach a public policy decision can be further complicated by the presence of deadweight losses, distributional effects and behavioural effects. For example, taxing one group to pay a subsidy to another group is cost-benefit neutral; it has a zero direct cost or benefit because the cost to the taxed group is exactly equal to the benefit to the subsidised group. However, there are at least three complications. First, the cost of administering the tax-and-subsidy project is a deadweight loss (a cost that is incurred if the project is undertaken and avoided if the project is rejected). Second, the tax-

and-subsidy project has clear winners and losers, raising distributional and equity considerations. These considerations lie outside a conventional cost-benefit analysis because that analysis considers only the net cost or net benefit and not who bears the cost and receives the benefit. However, public policy (for example, political) considerations might weight the losses of the taxed group more or less heavily than the gains of the subsidised group – a consideration that can lead to selecting a net cost project or rejecting a net benefit project on distributional grounds. Third, the imposition of taxes and subsidies on two distinct groups will surely affect the economic behaviours of both groups, with potentially significant effects.

To summarise, cost benefit analysis is a decision tool commonly associated with public sector project evaluation. Like a capital budgeting technique in a profit-seeking context, it is inherently *ex ante*, in the sense that it is based on expectations of costs to be incurred and benefits to be realised over the life of a difficult-to-reverse project; it is undertaken before a project is approved (an *ex post* cost-benefit analysis would be based on realisations of cost and benefits, not expectations). It considers monetary values of costs and benefits, sometimes using indirect methods such as revealed preferences and stated preferences to assign monetary amounts to intangible and qualitative costs and benefits. It places the costs and benefits on a comparable basis by discounting the monetary amounts at an appropriate discount rate. Cost benefit analysis does not include equity or distributional effects; that is, it does not distinguish the parties that bear the costs from the parties that receive the benefits. Complications arise when it is not possible to quantify costs and benefits, when there are deadweight losses in the form of costs that cannot be recovered and cannot be associated with benefits, when there are substantial indirect effects that give rise to additional costs and benefits, and when the distribution of costs and/or benefits is important to the public policy decision.

3. Application of cost-benefit considerations to financial reporting standard-setting

This section begins (3.1) by considering two kinds of groups involved in financial reporting that undertake cost-benefit analyses of accounting standards, starting with the standard-setters and using the FASB and the IASB as examples. It then describes (3.2) a second layer of cost benefit (or economic effect) analysis, using the European Union (EU) as an example. A recent example is used (3.3) to describe how the IASB analyses costs

⁷ For example, a person might be asked what sum of money he would view as equivalent to being able to visit a physician once every six months without paying for any of the visits. Stated preferences can be problematic for a variety of reasons, including when respondents are uncertain or unwilling to be forthcoming about trade-offs or when the item being analysed confers benefits or imposes costs on many, for example, the costs and benefits of preserving forests as national parks.

and benefits (or, to use a more recent term, effects) of a specific standard. This section concludes (3.4) with a discussion of the alignment between conventional cost-benefit analysis and the way financial reporting standard-setters appear to have implemented this idea.

3.1. Role of the standard-setters

Cost-benefit considerations are included in the FASB's mission statement and its conceptual framework and the IASB's Framework as part of the standard-setter's responsibilities. In considering its responsibility for assessing the costs and benefits of its standards, the FASB clarified in Concepts Statement 2, para. 144, that even if it is difficult or impossible to make the assessment quantitatively, 'the Board cannot cease to be concerned about the cost-effectiveness of its standards. To do so would be a dereliction of its duty and a disservice to its constituents.' Therefore, the idea of subjecting authoritative guidance to cost-benefit considerations is laid out as part of the FASB's duties, as it understands them. Paragraph 44 of the IASB's *Framework*, 'Balance between benefit and cost', contains a discussion that is broadly consistent with that in the FASB's conceptual framework but much abbreviated. In both conceptual frameworks, the cost-benefit analysis is presented as a constraint, not a qualitative characteristic.

The FASB's conceptual framework contains several discussions of costs and benefits. Concepts Statement 1 contains the following assertion (para. 23):

'The information provided by financial reporting involves a cost to provide and use, and generally the benefits of information provided should be expected to at least equal the cost involved. The cost includes not only the resources directly expended to provide the information but may also include adverse effects on an enterprise or its stockholders from disclosing it ... The collective time needed to understand and use information is also a cost ... [T]he benefits from financial information are usually difficult or impossible to measure objectively, and the costs often are; different persons will honestly disagree about whether the benefits of the information justify its costs.'

In addition, in the description of qualifying criteria for financial statement recognition, Concepts Statement 5, para. 63 specifies a 'cost benefit constraint' to be imposed, in addition to several recognition criteria, stating, '[T]he benefits from

recognising a particular item should justify perceived costs of providing and using the information.'⁸

Concepts Statement 2 addresses the difficulties of analysing the costs and benefits of a specific standard, stating that they 'are both direct and indirect, immediate and deferred. They may be affected by a change in circumstances not foreseen when the standard was promulgated. There are wide variations in the estimates that different people make about the dollar values involved and the rate of discount to be used in reducing them to a present value' (para. 142). Given this difficulty, Concepts Statement 2 proposes a qualitative analysis (para. 143), in three steps, as follows. First, does the matter 'represent a significant [financial reporting] problem?' Second, does a standard 'impose costs on the many for the benefit of a few?' Third, 'there are usually alternative ways of handling an issue. Is one of them less costly and only slightly less effective? Even if absolute magnitudes cannot be attached to costs and benefits, a comparison among alternatives may yet be possible and useful.'

It is possible to place this discussion in the context of a conventional cost benefit analysis. Specifically, the first criterion – the presence of a significant financial reporting problem – conveys the implication that the status quo is not acceptable. That is, a decision to place a project on the standard-setter's agenda would seem to be an outcome of an implicit cost-benefit analysis; the net benefit of doing nothing is outweighed by the net benefit of promulgating new guidance.⁹ The FASB's mission statement (available at www.fasb.org) states that one consideration in adding a project to its agenda is 'pervasiveness of the issue – the extent to which an issue is troublesome to users, preparers, auditors or others; the extent to which there is diversity of practice; and the likely duration of the issue (i.e. whether transitory or likely to persist).' That is, the FASB (or, more recently, its chairman) considers whether the status quo imposes a cost – described in

⁸ Thus, costs and benefits of accounting standards are included as a constraint and not as qualitative characteristics, for example, relevance and reliability. The purpose of discussing costs and benefits is to establish that the standard-setter should consider whether the benefits arising from a given standard justify the costs associated with that standard.

⁹ As discussed later, the incremental out-of-pocket cost of developing a single new standard would be zero as long as the work could be completed with resources in place. There would be a potential opportunity cost, if some combination of time and money constraints preclude a standard-setter from undertaking an otherwise desirable project. I thank Stephen Zeff for pointing this out to me.

terms of the issue being pervasively troublesome – and whether that cost is transitory.

The second criterion seems to pertain to distributional effects (who bears the costs and who reaps the benefits of financial reporting changes). Distributional effects are not part of a conventional cost-benefit analysis, although a reading of comment letters to the FASB and IASB suggests that they are very much in the minds of preparers, auditors, analysts/users and others with an interest in financial reporting standards. Based on the information in the basis for conclusions sections of recent standards issued by the IASB and FASB that describe standard-setter redeliberations of proposed standards in light of issues raised in comment letters, it does not appear that the IASB and FASB believe it is practicable to measure (quantify) the distributional effects of a given proposed standard – the discussions are largely, if not wholly, qualitative. Likewise, the information in the basis for conclusions does not provide systematic evidence that the IASB and FASB believe that distributional effects on one group (for example, preparers) should systematically receive greater weight, less weight, or equal weight as compared to effects on any other group.¹⁰

The third criterion of the cost-benefit discussion in Concepts Statement 2 pertains directly to seeking a cost-effective alternative, even if the analysis of costs and effects must be qualitative. Observation of the due process procedures of the IASB and FASB suggests that this criterion is applied continually during the standard-setting process, including seeking input from constituents about anticipated costs of various alternatives, and also after a standard has been promulgated, including deferring an effective date. This iterative process suggests that the standard-setter continues to receive information about the cost of applying a standard both while the provisions are being deliberated and after the standard-setter has reached a decision.¹¹

¹⁰ It is, of course, an empirical question whether the views of some group of constituents regularly prevail and, if they do, whether this is because of the technical merits of that group's input, or because of an implicit and perhaps even unconscious weight attached to distributional effects for that group, or for some other reason. This question belongs to the politics of standard-setting, a topic that lies outside the scope of this discussion paper.

¹¹ For example, the FASB provided for two one-year deferrals, applicable to non-public entities, of the effective date of Interpretation 48, *Accounting for Uncertainty in Income Taxes*, 2006, now part of Accounting Standards Codification (ASC) Topic 740. Cost-based delays occur in other settings, as evidenced by the repeated deferrals of certain provisions of the Sarbanes-Oxley Act, s. 404, applicable to certain smaller SEC registrants.

The FASB and IASB have retained the idea of a cost benefit constraint in the due process documents issued as part of their joint project to complete, improve and converge their conceptual frameworks. Those documents recast the constraints on financial reporting as materiality and cost; the discussion of benefit is embedded in the discussion of cost and does not receive separate treatment. The exposure draft *Conceptual Framework for Financial Reporting: The Objective of Financial Reporting and Qualitative Characteristics and Constraints of Decision-Useful Financial Reporting Information* (29 May 2008; hereinafter the conceptual framework exposure draft) concludes that any cost-benefit analysis will usually be more qualitative than quantitative, acknowledges that the analysis often will be incomplete, and lists specific examples of both costs and benefits (para. QC29–QC33). The exposure draft lists as information provision costs the costs of collecting, processing, verification and dissemination and notes that preparers expend most of the efforts of information provision while the costs are born by capital providers. The exposure draft also lists, for users, costs of analysing and interpreting (that is, using) information and costs associated with incomplete information in financial reports. In terms of benefits, the exposure draft suggests that:

'Financial reporting information helps capital providers make better decisions, which results in more efficient functioning of capital markets and a lower cost of capital for the economy as a whole. Individual entities also enjoy benefits, including improved access to capital markets, favourable effect on public relations, and perhaps lower costs of capital. The benefits may also include better management decisions because financial information used internally often is based at least partly on information prepared for general purpose financial reporting purposes' (para. QC31).

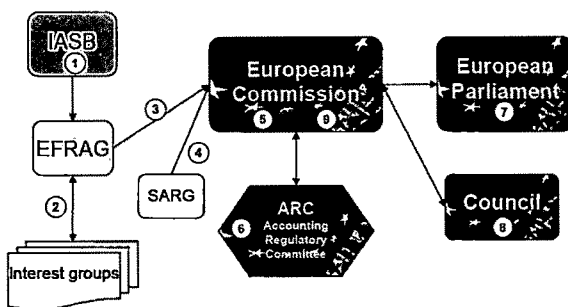
This discussion points toward an empirical measure of the benefits of a change in financial reporting standards, specifically, a decrease in the cost of capital. I return to this idea later on in this paper.

3.2. Cost-benefit analyses in the EU

Although both the FASB and the IASB understand cost-benefit analysis to be part of their responsibilities, we might ask why an independent private sector standard-setter that is not a regulatory body would not leave most or even all considerations of costs and benefits to securities regulators or other

government agencies, who represent a public policy interest.¹² For example, a securities regulator could perform its own cost-benefit analysis of each standard and could decline to enforce any authoritative financial reporting guidance that did not meet its cost-benefit threshold. The EU appears to have adopted a policy along these lines, as described next.

The EU has adopted a policy and procedures for standard-by-standard consideration and possible endorsement for the guidance issued by the IASB. After the IASB has issued a standard (including its own analysis of costs and benefits), the European Financial Reporting Advisory Group (EFRAG) provides both advice as to whether the standard meets established criteria, including understandability, relevance, reliability, comparability, conducive to the European public good and an economic effects analysis. This is a separate analysis, not a review of the IASB's analysis.¹³ Then the Standards Advice Review Group (SARG) provides an opinion on the EFRAG advice, followed by recommendations and ultimately votes by, among others, the Accounting Regulatory Committee of the EC.¹⁴ The European Parliament and the Council of the EU can object to an adoption decision but have a limited time to do so. This portion of the endorsement process is shown in the following diagram:¹⁵



Given this elaborate multi-step, multi-party analysis, why does it make sense for the IASB to do its own cost-benefit analysis? Why not leave the entire effort to the EC and comparable bodies in the other jurisdictions where IFRS (or standards based on or adapted from IFRS) are used? It would seem that such an approach would reduce the cost of standard-setting by eliminating one step in the process. I suggest that an analysis of these questions should include the following considerations. First, what group is best equipped, in terms of skills and subject-matter knowledge, to consider the costs and benefits of a given financial reporting standard? Second, what group has the greatest incentive and greatest ability to be objective in its analysis? Third, to what extent is a standard-by-standard analysis by a governmental body detrimental to the independence of the standard-setter? Fourth, and related to the issue of independence, to what extent is a standard-by-standard analysis by a governmental body, followed by a standard-by-standard decision as to whether to require the use of the standard, detrimental to the quality of financial reporting standards? Fifth, what are the advantages and disadvantages of a system in which a governmental body (for example, a securities regulator) recognises or endorses the standard-setter, as opposed to each of its standards?

3.3. Cost-benefit example: IFRS 3

The FASB and IASB include explicit discussions of costs and benefits in their recent standards. This subsection describes the benefits and costs discussion in IFRS 3, *Business Combinations*,¹⁶ selected because it was recently issued, it represents the culmination of the first major joint convergence project of the FASB and IASB, and it illustrates how the IASB currently thinks about costs and benefits.

The benefits and costs discussion of IFRS 3 begins (para. BC 435) with a statement of the objective of financial statements and states the

¹² I view the distinction between a standard-setting body and a regulator as important. Only the latter has enforcement powers. In some cases, both financial reporting standard-setting and securities regulation (enforcement) are carried out by the same group, for example, a Ministry of Finance; however, this is not the case for the FASB and the IASB.

¹³ Reviews (or audits) of cost-benefit analyses, as opposed to undertaking a second cost-benefit analysis, may be part of an overall public-policy-decision-making apparatus. For example, the US Government Accountability Office (GAO) reviews and comments on the cost-benefit analyses of certain government regulatory bodies if asked to do so by members of the US Congress. See, for example, the GAO's *Clean Air Act: Observations on EPA's Cost-Benefit Analysis of Its Mercury Control Options* (GAO, 2005). This study did not independently estimate the costs and benefits of the options the EPA (Environmental Protection Agency) considered; rather, it reviewed the quality of the cost-benefit analysis process and offered a series of criticisms of that process, including non-comparable estimates, failure to estimate health benefits associated with decreased mercury emissions and failure to analyse key uncertainties.

¹⁴ The EC's analysis of IFRS 9, issued November 2009, suggests that the EC takes seriously the task of reconsidering IFRSs on a standard-by-standard basis and does not feel the need to defer to the IASB. In a letter to Sir David Tweedie, Chairman of the IASB, dated 11 November 2009, Jorgen Holmquist, speaking for the EC, suggested that IFRS 9 did not reach 'the right balance on fair value accounting and possible impact on financial stability.'

¹⁵ This diagram and the related description are downloaded from the EU's website: http://ec.europa.eu/internal_market/accounting/docs/ias/endorsement_process.pdf.

¹⁶ The IASB has also issued a document *Business Combinations Phase II: Project summary, feedback and effect analysis*, January 2008 that elaborates on most of the cost and benefit ideas discussed in the standard.

criterion that the benefits derived from information should exceed the costs of providing it, along with two qualifying statements: (1) the evaluation of benefits and costs is essentially a judgmental process; and (2) costs and benefits may be borne by different groups. In reaching its judgment, the IASB considers the costs incurred by preparers of financial statements and their comparative advantage in developing information relative to the costs users would incur to develop substitutes for missing information; the costs incurred by users of financial statements when information is not available; the benefit of better decision-making as a result of improved financial reporting. The IASB concluded that the revised IFRS 3 confers benefits by 'converging to common high quality, understandable and enforceable accounting standards for business combinations in IFRSs and US GAAP. This improves the comparability of financial information around the world and it also simplifies and reduces the costs of accounting for entities that issue financial statements in accordance with both IFRSs and US GAAP' (para. BC436). As I read this statement, the IASB identifies two benefits: (1) a converged standard that increases comparability among entities that apply IFRS and US GAAP; (2) a standard that is high quality, understandable and enforceable. I interpret the second benefit as encompassing both quality of the standard, presumably captured by its ability to produce decision-useful information when properly implemented, and implementation, presumably captured by understandability and enforceability.

The remainder of the discussion refers to specific aspects of IFRS 3, including, for example, scope, non-controlling interest, contingent consideration and exceptions to the requirement to measure all assets and liabilities of the acquired firm at fair value. In this discussion, the IASB refers to benefits in the form of understandability, relevance, reliability and comparability of information provided; in the discussion of fair value remeasurement of contingent consideration the IASB refers to statements by financial statement users that suggest a perception on the part of those users that the remeasurement requirement would increase the timeliness of information.¹⁷ The discussion of costs describes preparation costs, including obtaining external valuations, audit costs and 'complexities' of certain fair value measurements.

To summarise, the IASB's recent discussion of

costs and benefits of IFRS 3 is entirely qualitative, is couched in terms of qualitative characteristics from conceptual frameworks (for example, relevance, reliability and comparability) and notes that costs and benefits may be borne by different groups. Taking the discussion of IFRS 3 as a representative example of a financial reporting standard cost-benefit analysis, the next subsection discusses the alignment between this approach and a conventional cost-benefit analysis.

3.4. Alignment between a standard-setting discussion and a conventional cost benefit analysis

As previously discussed, a conventional cost benefit analysis has the following components: (1) a time period over which future costs and benefits are estimated; (2) consideration of the costs and benefits of each alternative, including the status quo; (3) assignment of monetary values to costs and benefits; (4) a discount rate to place all monetary values on a comparable basis. The discussion of costs and benefits from IFRS 3 does not specify a time period, discusses the costs and benefits of the status quo (not issuing a revised IFRS 3) primarily by implication, and does not assign monetary values to either costs or benefits. This qualitative approach is consistent with the view that a quantitative approach to cost-benefit analysis of financial reporting standards is impracticable, particularly with regard to benefits. Under this view, a conventional cost-benefit analysis would not be applicable to financial reporting standard-setting.

If this conclusion is accepted, standard-setters might consider whether it would be helpful to acknowledge that a conventional cost-benefit analysis cannot, as a practical matter, be applied to financial reporting standards, and to discontinue the use of language that suggests such an analysis can be done and should be done. A change in terminology, from 'costs and benefits' to 'effects' or 'impacts' may result in a better description of the cognitive process actually used by standard-setters to weigh the consequences of changing authoritative guidance. That is, the standard-setter considers whether a standard will lead to improvements in financial reporting at a reasonable cost. Under this approach, I suggest that the standard-setter could consider the following: abandon the potentially misleading terms 'costs and benefits' and continue the current practice of describing how the standard's provisions, when implemented in a way that is consistent with the objective of the standard, will achieve the desired level of improved financial reporting by yielding financial reports the contents of which mesh with the qualitative characteristics of

¹⁷ Specifically, para. BC437(c) states that users 'have stated that the information they receive under [the predecessor standard] is too late to be useful.'

financial reporting (relevance, reliability and comparability), and explaining the approaches taken to reduce the costs to preparers and, if applicable, auditors.¹⁸ The standard-setter would take as its goal the improvement of financial reporting as measured by the qualitative characteristics, subject to reducing implementation and assurance costs where it makes sense to do so, and would not make an attempt to compare or trade off the benefits to one group against the costs to another group.

Alternatively, standard-setters could re-examine the view that it is not practicable to apply quantitative techniques of cost-benefit analysis to financial reporting standards. Under this approach, standard-setters would thoroughly reconsider the practicability of obtaining data to form quantitative measures, however uncertain, of the costs and benefits of a given reporting standard, and how best to go about that task. After this reconsideration, standard-setters, and their constituents, would conclude that obtaining quantitative measures is worth the cost, in terms of improving financial reporting standard-setting, or that it is not.¹⁹ The next section explores this idea in more detail and provides some examples from accounting research.

4. Possible approaches to analysing effects of a given change in accounting standards

The possibility of a substantial and intractable misalignment between a conventional cost-benefit analysis and the way standard-setters actually analyse the costs and benefits of accounting standards, as well as the notion that it may make sense to abandon the idea of comparing costs with benefits altogether (or at least, abandon the use of terminology suggesting that such a comparison has been

made), raises the question of what are the practical limits of capturing the effects (both costs and benefits) of a given accounting standard, or a set of accounting standards. This section considers this issue from several perspectives, moving from a consideration of costs (4.1) to benefits (4.2), attributes of accounting information (4.3) and market outcomes (4.4). It concludes with examples of accounting research (4.5).

4.1 Analysing the costs of a change in accounting standards

In this subsection, I consider which costs are relevant to the analysis of a given change in accounting standards, suggest that, in general, gathering reliable data on many of these costs is impracticable or close to it, and distinguish costs from consequences. I also offer a comment on the distribution of costs, in the context of a conventional cost-benefit analysis.

Which costs are relevant?

A conventional cost benefit analysis requires the identification of all costs that would be incurred or avoided by an alternative that is being considered. Viewed from this perspective, the operating cost of the standard-setter (that is, the size of the standard-setter's budget) would in general not be pertinent to the evaluation of any given standard. The reason is that the standard-setter's total cost is fixed within a relevant range of standard-setting activities; it is sunk with respect to the issuance of an incremental standard. That is, the standard-setter's operating budget is a cost of having standards in general, not a cost of issuing a specific standard. There may be an opportunity cost if the standard-setter is precluded by limits of time or money or both from undertaking all meritorious projects; or, alternatively, there may be an out-of-pocket cost if the addition of a standard-setting project necessitates hiring of professional staff.

In addition, it is only the incremental costs of applying a new standard (for preparers) and the non-recoverable incremental costs of assurance (for auditors) and of using the new information (for analyst/users) that are pertinent to the net cost of that standard. A cost incurred by an auditor or analyst/user that is passed along to a preparer and included in the preparer's cost to apply the standard would not be a net cost of applying a new standard. Those application costs would include the incremental out-of-pocket costs to change information systems (preparers and possibly auditors) and to change models used for analysis, prediction and valuation (users and possibly auditors) as well as

¹⁸ My emphasis is on calibrating the provisions of a standard in terms of their ability to produce relevant, reliable and comparable information when properly applied—an effects analysis. However, in its January 2008 report, *Business Combinations Phase II, Project summary, feedback and effect analysis* (hereinafter, the IASB effect analysis) the IASB appears to distinguish between a cost-benefit evaluation and an effects analysis. As I interpret the report, the effect analysis appears to focus on how financial statement information will change, in terms of measurement and available information, and the cost-benefit analysis appears to focus on preparation and information analysis costs.

¹⁹ Meeks and Meeks (2001: 43) provide several quotes that espouse the importance of cost-benefit analyses in financial reporting standards specifically and accounting regulation more generally, and end with the following hopeful comment and question: '... although the conceptual and measurement difficulties are challenging, each category of cost and benefit is actually amenable to research, research which in some cases could yield fairly precise estimates while in others it should at least significantly narrow the range of possibilities ... Is it unreasonable to conjecture that the benefits of such research would exceed its costs?'

ongoing incremental costs of continuing to apply the new standard. It is an open question as to the time period that should be associated with these costs.

The size and nature (e.g. one-time versus ongoing) of these costs will vary considerably across standards and possibly across reporting entities. In principle, it would be possible to elicit preparer, auditor and analyst/user estimates of these costs, both at adoption and ongoing. Techniques such as stratified (by industry and size) random sampling would support extrapolation of preparer costs and auditor costs from fairly limited samples. The incremental costs to analyst/users could, in principle, be elicited the same way, by asking a sample of analysts/users to report on the incremental costs to change their models because of a new standard. However, developing the cost data would itself involve a cost and the resulting estimates would be inaccurate because of sampling error and because of respondent estimation error. In addition, the standard-setter has no way to compel anyone to provide this type of information.

Finally, the cost of learning a new standard falls on preparers, auditors and users, all of whom need to exert the cognitive effort, and devote the time, to understand the requirements and implications of that standard. The time required represents an opportunity cost – the learner must forgo either leisure or productive activities (if the latter, this cost belongs to the learner's employer). Learning costs would be expected to increase with the complexity of both the standard and the measurement required by the standard. Time and cognitive effort devoted to this learning process have an opportunity cost that in principle might be elicited by using a revealed preference or stated preference technique. One idea would be to ask preparers or analysts/users what is the cash equivalent value of a standard that can be applied with no additional learning versus one that requires a specified amount of learning; the difficulty would be holding constant the other attributes of the standard and holding constant the cost of obtaining information to apply the standard. Developing the survey instrument would itself require substantial standard-setter effort, including possibly devising a mechanism for obtaining revealed preferences.

Distinguishing consequences from costs

An analysis of the costs and benefits of a change in financial reporting standards should distinguish between costs and consequences. Changes in financial reporting standards should be expected to have consequences for decisions that are predi-

cated on judgments or estimates that are based on financial reporting information, for example, assessments of enterprise risk or earning capacity. Investors and creditors may revise their estimates of required return in light of new information made available because of a change in accounting standards; this consequence of the change would be regarded as an overall benefit to the extent that the result is a more efficient allocation of capital in the economy.

Recent FASB standards that eliminate the Qualifying Special Purpose Entity (QSPE) exception²⁰ and require a largely qualitative analysis of variable interest entities provide a current example of consequences of changes in financial reporting standards.²¹ The changes, effective from January 2010, are expected to require certain firms, including, in particular, certain financial services firms, to recognise previously off-balance sheet assets and liabilities associated with certain securitisation activities. The accounting standards do not affect the economic substance (risks and benefits) of the assets and liabilities arising in securitisation structures, but they will in some cases require the balance sheet recognition of those assets and liabilities – a change in information provided, not a change in the risk and pay-off structure of the entity. That is, the securitisation arrangements exist and have done so for some time; the difference for analysts/users lies in the ease of accessing accounting measures of those structures. The consequence of this change in standards, that some would characterise as a benefit of the change, is that investors, creditors, and bank regulators will, after the effective date of the standards, have ready access, through the financial reporting system, to more nearly complete information about assets and liabilities associated with securitisation activities. Bank regulators can choose to use this information in setting regulatory capital requirements, or they can choose to disregard it.

The American Bankers Association (ABA) has requested that bank regulators provide a lengthy transition period (at least three years) before fully using this additional information in setting bank capital requirements, and when the information is used, regulators should take account of arrangements that would be expected to affect the risk of the consolidated assets, such as buying credit protec-

²⁰ A QSPE was exempt from consolidation, based on the reasoning that the entity is so entirely passive that control could not be at issue.

²¹ SFAS 166, *Accounting for Transfers of Financial Assets, an Amendment to FASB Statement No. 140* (2009), now part of Accounting Standards Codification (ASC) Topic 860 and SFAS 167, *Amendment to FASB Interpretation No. 46(R)* (2009), now part of ASC Topic 810.

tion.²² In making these requests, the ABA points to costs in the form of reduced lending and loss of competitive position for US banks if bank regulators immediately use the new information without adjustment. Thus, the consequence of the change in accounting standards is the provision of more information about the assets and liabilities associated with entities' securitisation activities. An alleged potential cost that might be imposed on certain regulated entities involves the use, by regulators, of this information to constrain those entities' lending activities and perhaps their other activities as well.²³ However, that cost is not a cost of the standard.

The focus on consequences and their link (and, sometimes, their conflating) with costs was described over 30 years ago by Zeff (1978) who described 'economic consequences' as the 'impact of accounting reports on the decision-making behaviour of business, government, unions, investors and creditors. It is argued that the resulting behaviour of these individuals and groups could be detrimental to the interests of other affected parties. And, the argument goes, accounting standard-setters must take into consideration these allegedly detrimental consequences when deciding on accounting questions' (Zeff, 1978: 56). He illustrates this issue with examples beginning in 1941, demonstrating that this way of thinking about consequences as costs is not new. Similarly, Oscar Gellein (FASB Special Report, 1991: 87–95) makes the point that the provision of neutral,²⁴ decision-useful information has consequences, noting, 'Financial reporting would be sterile and standards setting would be purposeless if nothing resulted from the reporting ... At the highest level or purpose, financial reporting should be useful in bringing about efficient allocation of available resources.' (p. 88). In other words, financial reporting information should be one of the inputs used by investors and creditors in making decisions about

where to invest and where to lend – it is a signal for capital allocation.

Distribution of costs

Although the distribution of costs (specifically, which party bears them) is not part of a conventional cost-benefit analysis, discussions of costs of accounting standards sometimes imply that the costs are incurred by preparers and the benefits are received by analysts/investors, and that this distributional effect is pertinent to standard-setting. For example, the IASB's effect analysis contains the following language:

'Who bears the costs is important. For example, an acquirer might choose to measure non-controlling interests at their proportionate interests in the net identifiable assets of the acquired business, rather than at fair value. If analysts want to use the fair value of the non-controlling interests in a valuation, for example, each analyst will incur costs estimating that fair value. Allowing a lower cost option for preparers can shift the costs to analysts and other users – assuming, in this example, that the analyst prefers to measure non-controlling interests at fair value. It is also likely that the estimate of fair value made by each analyst will be less reliable than the estimate made by the acquirer ... If the analyst prefers to measure non-controlling interests at their proportionate interest in the subsidiary, then requiring them to be measured at fair value imposes a cost on the preparer with no benefit to the users' (p. 13).

Viewing this discussion as a representative example, I offer the following observations. First, a conventional cost-benefit analysis would study costs and benefits, not which party incurs the costs and which receives the benefits. Second, a discussion of the distribution of costs should be precise as to what is meant by the word 'preparer'. On the one hand, preparers are persons who are paid to be expert in transactions and financial reporting, and to exert effort to prepare financial reports. Under the assumption that preparers (an entity's accounting staff, controller and CFO, for example) are paid a market wage for their efforts, including their cognitive efforts to understand a new accounting standard and how to apply it, they do not incur additional costs from a change in accounting standards. On the other hand, 'preparer' may refer to the owners of the reporting entity, who incur the incremental out-of-pocket costs of changes in accounting standards, including, for example, the costs of new information systems, the costs of

²² Letter dated 15 October 2009 from Michael L. Gullette to the Controller of the Currency, the Board of Governors of the Federal Reserve, the Federal Deposit Insurance Corporation and the Office of Thrift Supervision.

²³ As previously noted, the regulator can choose to disregard the financial accounting information. It could also have imposed a regulatory reporting requirement and regime, in the absence of any financial reporting requirement, that would have had the same effect as basing regulatory behaviour on the FASB's recent standards.

²⁴ Gellein uses the word 'evenhanded' to describe neutrality and notes that 'Evenhandedness has been achieved if enterprises can expect to pay a price for capital that is commensurate with prospective return and assumed risk.' This points toward a focus on the cost of capital and changes therein as an indicator of the effects of changes in financial reporting standards.

training the accounting staff and, possibly, the costs of hiring more accounting professionals.²⁵ Also, as discussed in the next section, if a change in accounting standards confers capital market benefits, those benefits would reasonably be expected to devolve to owners.

The cost of obtaining cost data

I argue that at least some of the costs of a given change in accounting standards could, in principle, be ascertained by using survey methods and revealed preference and stated preference techniques. However, such an approach would itself impose costs on the financial reporting system every time there is an actual or proposed change in standards. Those costs would include the personnel and other costs of devising and administering the instruments and compiling and analysing the resulting data plus the costs to respondents of developing their responses. A potentially significant cost that, in my view, defies quantification is the cost of compelling or inducing those surveyed to respond.

To provide a sense of how one government agency went about obtaining cost data using a survey instrument, see Securities and Exchange Commission, 2009. This is an example of an ex post analysis, based on a survey undertaken during late 2008–early 2009 by the Office of Economic Analysis (OEA, 2009) of the US Securities and Exchange Commission (SEC) of the costs and benefits of the requirement, imposed by s. 404 of the Sarbanes-Oxley Act of 2002 and modified by SEC guidance issued in 2007, that the independent auditor attest to management's assessment of the effectiveness of internal controls over financial reporting.²⁶ To obtain a sense of what might be involved in obtaining survey-based cost data for a complicated standard, it is instructive to consider the length of the report – 139 pages – and the efforts involved, including designing a web-based survey, identifying the recipients of the survey, asking them to participate (and following up), collecting and analysing the data. The list of caveats and cautionary language about the results and their interpretability runs to five pages. I view this report as providing a potentially useful example of both what

can be done in terms of gathering survey data and what kind of effort is required.

4.2. Analysing the benefits of a change in accounting standards

Standard-setters such as the FASB and IASB emphasise the difficulties in quantifying the benefits of accounting standards and suggest that the evaluation of benefits is necessarily qualitative. For example, the IASB's 2008 effect analysis contains the following discussion:

'Our evaluations of costs and benefits are necessarily qualitative, rather than quantitative. This is because quantifying costs, and, particularly, benefits is inherently difficult. Although other standard-setters undertake similar types of analysis, there is a lack of sufficiently well-established and reliable techniques for quantifying this analysis.'

To guide standard-setters' thinking, the FASB's conceptual framework and the IASB's *Framework* point to increases in decision-usefulness, described in terms of relevance, reliability and comparability, as the benefits of accounting standards. 'Relevance' implies the ability to affect a resource allocation decision, generally a credit granting or equity investing decision. The decision context provides the boundaries of usefulness as those items that are pertinent to lending or investing in equity instruments. This criterion, taken in isolation, would not be very restrictive; an airline's load factor or a homebuilder's order backlog would be relevant to a profit analysis. Furthermore, the relevance criterion does not lend itself to quantification; for example, it does not specify how much a given decision would have to be potentially affected by a given item and whether some decisions are more important than others, in terms of supplying relevant information. 'Reliability' implies that the reported item corresponds to what it purports to represent. The assessment of reliability is complicated by: (1) a dearth of objective benchmarks against which to calibrate a given reported item; and (2) even given a benchmark, a lack of agreement on what would constitute the admissible level of unreliability, that is the admissible size of the confidence interval around the reported number. In addition, the development of benchmarks and measures of acceptable amounts of unreliability would still not provide evidence on how to make an unacceptably unreliable number acceptably reliable, including the cost of doing so. 'Comparability' means that similar items are

²⁵ This point is made in the conceptual framework exposure draft, para. QC30: 'Preparers expend the majority of the effort toward providing financial information. However, capital providers ultimately bear the cost of those efforts in the form of reduced returns.'

²⁶ The primary focus of the SEC survey was the effect of the 2007 reforms on the cost-effectiveness of evaluations of internal controls over financial reporting and related audits.

accounted for the same way and different items are accounted for differently. Any standard that contains a free choice in the accounting for a given item, whether implicit or explicit, impairs comparability. IASB and FASB discussions suggest that analysts/users bear the costs of non-comparability, because they incur costs to adjust reported numbers to the extent such adjustments are practicable.

Qualitative characteristics from the FASB's and IASB's conceptual frameworks do not necessarily readily link to empirical measures used by accounting researchers. For example, the concepts statement exposure draft (para. BC2.8–2.10) distinguishes between predictive value (accounting information can be used to make assessments of outcomes before those outcomes occur) and predictability (a statistical notion that pertains to forecast accuracy) and notes that the IASB and FASB do not believe it is appropriate to adopt statistical notions in the framework. However, accounting researchers sometimes explicitly focus on forecast accuracy as an outcome indicator in their examinations of financial reporting outcomes. Although there is sometimes a possible misalignment between the qualitative characteristics and research-based measures, accounting researchers have sometimes attempted to motivate their analyses of effects of financial reporting and changes in reporting requirements in terms of the conceptual framework. The next two sections discuss two approaches, based on attributes of accounting information and on market outcomes, such as indicators of the ex ante cost of capital.

4.3. *Attributes of accounting information*

Accounting researchers commonly focus on summary indicators such as earnings and book values in their empirical analyses of accounting information and calculate attributes or characteristics of these summary indicators. In this discussion, I identify three categories of attributes of accounting information: market-based, accounting-based and analyst-based.²⁷ Market-based attributes take prices or returns as the reference construct and calculate an earnings or book value attribute based on an estimated association between accounting earnings or book value and either prices or returns. Accounting-based attributes take cash or earnings as the reference construct and calculate an earnings attribute based on the relations among earnings

numbers over a period of time (for example, persistence, predictability) or the relation between earnings and cash flows (for example, smoothness, accruals quality as described by Dechow and Dichev, 2002). Analyst-based attributes are based on the properties of analysts' earnings forecasts, including bias, dispersion and accuracy.

Market-based attributes are grounded in the statistical association between prices or returns (usually equity prices or returns) and accounting amounts, as measured by regressions of prices or returns on accounting numbers. The explanatory power of such regressions is sometimes interpreted as capturing the combined qualitative characteristics relevance and reliability (for example, Barth et al., 2001). One variant of this approach regresses earnings on returns (for example, Ball et al., 2000) and is used to capture timeliness and conservatism (described as the ability of earnings to capture the information that is already in returns, particularly, in the case of conservatism, the negative information).²⁸ Another variant focuses on the slope coefficients, not the explanatory power, of regressions of returns or prices on earnings and (sometimes) book values or reverse regressions of earnings on returns.²⁹

The association between market outcomes and

²⁸ Accounting researchers differ in their views about the meaning and importance of conservatism, and some accounting researchers take issue with what they see as standard-setters' apparent disregard for the value of conservatism in financial reporting. See, for example, Watts (2003) for a discussion of conservatism, including a description of conservatism as more stringent verification requirements for income-increasing items than for income-decreasing items, and arguments suggesting that conservatism is a key element of accounting quality. The FASB's Concepts Statement 2, *Qualitative Characteristics of Accounting Information*, 1980, para. 95, describes conservatism as 'a prudent reaction to uncertainty to try to ensure that uncertainties and risks inherent in business situations are adequately considered' but does not include conservatism as a qualitative characteristic. The IASB's *Framework*, para. 37, describes prudence as 'the inclusion of a degree of caution in the exercise of the judgements needed in making the estimates required under conditions of uncertainty, such that assets or income are not overstated and liabilities and expenses are not understated' and includes prudence as a qualitative characteristic. The conceptual framework exposure draft states that 'describing *prudence* or *conservatism* as a qualitative characteristic or a desirable response to uncertainty would conflict with the quality of *neutrality* because ... an admonition to be prudent is likely to lead to a bias in the reported financial position and financial performance' (para. BC2.21, emphasis in original). To use the language of the conceptual framework, the question of the value of conservatism in financial reporting seems to turn on whether conservatism increases the decision-usefulness of reported information; some accounting researchers argue, and present evidence, that it would.

²⁹ The slope coefficient from a regression of returns on earnings is sometimes referred to as an earnings response coefficient (ERC), for example, see Kormendi and Lipe (1987) and Easton and Zmijewski (1989).

²⁷ This discussion follows from a portion of the discussion in Francis et al. (2004). I provide examples of accounting attributes that have been examined in accounting research; I do not attempt to identify and discuss all the attributes of accounting information that researchers have considered.

accounting numbers can be measured in terms of explanatory power (for example, of returns for earnings or vice versa) or in terms of estimated coefficients, over long returns windows or short, and for various configurations of accounting information (for example, net income versus net losses; line items on the income statement; earnings plus book value). In all cases, however, the reference construct is a market outcome measure – price or return. A standard whose application led to information with a stronger association between an accounting outcome and the market reference construct would constitute an improvement; the benefit of the standard is captured by the increase in the measure of association, which in turn is interpreted as capturing the increase in relevance and reliability combined.

Accounting-based attributes are grounded in the relation between earnings and cash (for example, accruals quality and smoothness) or in certain distributional properties of earnings for a large sample (for example, a high frequency of small positive income in a cross-sectional distribution of reported earnings and losses is sometimes identified as an indicator of managed earnings) or in the time-series properties of earnings (for example, persistence and predictability). In some cases, the attribute is inherently firm-specific (for example, earnings persistence) and in other cases the attribute appears only in a distribution of earnings outcomes (for example, a high frequency of small positive incomes). Accruals quality (for example, Dechow and Dichev, 2002) is the mapping of current accruals into lagged, contemporaneous and leading cash flows; smoothness (for example, Leuz et al., 2003) is the ratio of income variability to cash flow variability. Persistence is a measure of earnings sustainability (for example, the slope coefficient from a regression of current earnings on lagged earnings) and predictability is often measured as the ability of the current earnings number to predict the next period's earnings. These accounting-based attributes have been argued to be linked to the idea that earnings should assist in the assessment of either future earnings or future cash flows, or both, and that earnings management impairs that assessment. Accepting that argument as valid, the application of a standard which led to an improvement in one of these measures would improve financial reporting, with the amount of the benefit captured by the amount of the measure's improvement.

Analyst-forecast-based attributes are grounded in the presumption that analysts' earnings forecasts represent a key use of accounting information (by analysts, to form the forecasts) and a key source of

information to investors. These attributes include accuracy, bias and dispersion (sometimes interpreted as an indicator of uncertainty).³⁰ Application of a standard which led to an increase in accuracy, and/or a decrease in bias or dispersion would constitute an improvement and the amount of the benefit would be captured by the change in the measure.

In some cases, researchers have used combinations of several attributes to assess 'accounting quality', a term that is discussed but not included as a qualitative characteristic in the FASB's and IASB's conceptual frameworks. Standard-setter assessments of improvements in financial reporting use the qualitative characteristics – relevance, reliability, and comparability – as benchmarks of accounting quality in qualitative assessments.³¹ As previously noted, accounting researchers have linked these qualitative characteristics to empirical measures of certain attributes of accounting information. For example, Barth et al. (2008) capture accounting quality using indicators of earnings management (smoothing and managing toward positive income), timely loss recognition (frequency of large losses, perhaps interpretable as linked to conservatism) and value relevance (association between market values and both book value of equity and earnings, sometimes interpreted as capturing combined relevance and reliability, for example, Barth et al., 2001).

There are several open issues related to research that bases inferences about the effects of changes in accounting standards on an analysis of changes in the attributes of accounting information. First, to what extent are the attribute measures interrelated? For example, Barth et al. (2008) and others have noted that the accelerated loss recognition associated with requirements to recognise asset impairments before the losses are realised is likely to be associated with more volatile (less smooth) earnings and possibly lower earnings persistence. Second, to what extent are attributes of accounting information innate, in the sense of being manifestations of the neutral application of accounting standards to the reporting entity's operating environment and business model, as opposed to discre-

³⁰ Francis et al. (2004, particularly chapter 1) provide a detailed discussion of research on the properties of analyst earnings forecasts and analyst forecasting behaviour.

³¹ The joint IASB-FASB conceptual framework exposure draft states that 'quality is defined by the objective and qualitative characteristics of financial reporting information' and 'application of objectives and qualitative characteristics should lead to high-quality standards, which in turn should lead to high-quality financial reporting information that is useful for making decisions' (para. BC2.47, emphasis in original).

tionary, in the sense of arising from management's financial reporting decisions?³² Third, none of the commonly used attributes of accounting information captures comparability, the idea that similar arrangements and events are accounted for the same way. If comparability is a fundamental indicator of reporting quality then a standard that eliminates alternatives for the same arrangement or event (for example, eliminating the pooling-of-interests method for business combinations) would create a benefit and a standard that permits alternatives for the same arrangement or event (for example, a fair value option) would create a cost.³³

4.4. Market outcomes

Accounting and finance researchers, as well as some discussions by standard-setters, point to certain capital market outcomes as intrinsically desirable, including liquidity and a reduced cost of capital. Meeks and Meeks (2001: 41) list among the benefits of accounting regulation the following outcomes: (1) reduction of 'shareholder losses because of investment decisions which have been (legally) misinformed'; (2) 'reduction of misinformation attracting more funds into the capital market, resulting in ... a lower cost of capital and smaller bid-ask spreads'. There is not a general agreement among researchers about the most appropriate way to measure the constructs associated with market outcomes; as illustrated in the next subsection, researchers sometimes use multiple empirical measures for the same construct.

4.5. Examples of research into the effects of accounting standards

Accounting researchers can study the effects of one standard at a time or a wholesale change in standards, and can use accounting-based, market-based and analyst-based measures of effects. This subsection describes some of the research design decisions facing researchers and some of the inherent limitations of this research. I use three

papers to illustrate these design decisions.³⁴ Kohlbeck and Warfield (2008) examine the effects on several accounting quality measures of 19 general purpose (that is, not industry-specific) standards issued by the FASB between 1980 and 2005.³⁵ Barth et al. (2008) examine the effects on several accounting quality measures of the voluntary adoption of IAS/IFRS by 327 firms in 21 countries between 1990 and 2003. Daske et al. (2008) examine the effects of mandatory IFRS adoptions on several capital market outcomes for a sample of over 3,100 IFRS adopters between 2001 and 2005. In the context of this discussion, an improvement in an outcome indicator would be evidence of a benefit associated with a change in accounting standards.

The standard-setter's approach to thinking about the effects of a change in accounting standards proceeds one standard at a time, suggesting a research design that proceeds the same way. Kohlbeck and Warfield (2008) adopt this approach for 19 general purpose standards issued by the FASB during 1980–2005. A reading of their paper suggests the following design decisions and limitations, all of which are noted by the researchers and all of which could affect the degree to which the research design could, as a practical matter, be used by a standard-setter as part of a cost-benefit or effects analysis of a single standard.

First, to analyse the effect of a specific standard, the researcher must choose a pre-period (to benchmark the effects of the standard) and a post-period (to capture the effects of the standard); Kohlbeck and Warfield choose the four years ending two years before, and the four years beginning two years after, the implementation of each standard, and they group all standards that have a common effective year (for example, SFAS 142 and 144 were effective at the end of 2001 and SFAS 141 was effective for business combinations after 30 June 2001). In addition, standards are issued in adjacent years (for example, SFAS 143 was effective from 15 June

³² Results in Dechow and Dichev (2002) and Francis et al. (2004, 2005) suggest that the innate portion of at least some earnings attributes is larger than the discretionary or financial reporting portion.

³³ My emphasis on comparability in this discussion is in contrast to the conceptual framework exposure draft, which has demoted comparability to a supporting role (an enhancing qualitative characteristic, not a fundamental qualitative characteristic; para. QC15–QC19). The exposure draft contains the following qualified statement (para. QC19) that, 'Although a single economic phenomenon can be faithfully represented in multiple ways, permitting alternative accounting methods for the same economic phenomenon diminishes comparability and, therefore, may be undesirable.' (emphasis added)

³⁴ I refer to these papers only to illustrate certain research design decisions. This section is not intended to provide a survey of research on the effects of accounting standards. Each of the three example papers contains its own literature review that provides information on other related papers.

³⁵ There is variation in the applicability of even these general purpose standards. While most or all entities would have deferred tax assets and deferred tax liabilities (SFAS 109, *Accounting for Income Taxes*, 1992, now part of Accounting Standards Codification (ASC) Topic 740), not all firms would have defined benefit pensions and post-retirement benefits (SFAS 87, *Employers' Accounting for Pensions*, 1985, and SFAS 106, *Employers' Accounting for Postretirement Benefits Other than Pensions*, 1990, both now part of ASC Topic 712) or asset retirement obligations (SFAS 143, *Accounting for Asset Retirement Obligations*, 2001, now part of ASC Topic 410).

2002, just six months after the SFAS 142/144 effective dates). As a result, there is not a precisely demarcated pre-period for a standard, since the pre-period for one standard could well overlap with the post-period of another.

Second, *all* sample firms must apply these general purpose standards, so there is no comparison (or control) group to use as a benchmark for reporting in the absence of the change in guidance.³⁶ Furthermore, most of the time all (or nearly all) firms must apply the standards starting at the same time, so effects are clustered in calendar time and potentially confounded with macroeconomic or industry factors that affect financial reporting³⁷. Kohlbeck and Warfield use a trend variable to capture factors unrelated to accounting standards that are changing over time, and control variables suggested by previous research for other known effects.

Third, results may seem hard to interpret, in the sense that the effect of a given standard may be too small to detect in the data (a question of power) or a given standard may have differing effects on different accounting attributes. To increase power, Kohlbeck and Warfield average their measures of financial reporting effects across 11 standards events (that is, 11 years in which 19 standards became effective; some years have multiple standards). They note that their detailed results are mixed, both across standards events and across the attributes they consider. For example, averaged across 11 standards events, they study two analyst-based attributes, forecast accuracy (which increases) and forecast dispersion (which does not change significantly) and three accounting-based attributes, persistence (no significant change), earnings response coefficients and accruals quality (both of which decrease).

Fourth, Kohlbeck and Warfield's decision to focus on standards issued by the FASB implies that

their sample firms face a common regulatory environment, thereby eliminating one potential confounding variable. However, managers of the sample firms may or may not face common (across managers) and constant (time-invariant) incentives to make high quality reporting decisions, particularly over such a long sample period. Reporting entities may vary both in cross-section and over time in the quality of either or both information/internal control systems to support financial reporting and professional accounting expertise. Furthermore, the demands placed by specific standards on information systems and expertise are likely to vary, with unknown effects on attributes of accounting information.

One substantial change in research designs, which at least in principle addresses the question of overlapping and confounding effects of individual standards as they are issued and adopted over time and the question of effects that exist but are too small to be detected in the data, is to study a wholesale change in accounting standards such as the voluntary or mandatory adoption of IAS/IFRS. The design can focus on a single country or several, as in Barth et al. (2008; 327 firms voluntarily adopting IAS/IFRS in 21 countries) and Daske et al. (2008; mandatory adoption of IFRS in 26 countries). A reading of these papers suggests the following design decisions and limitations, all of which are noted by the researchers and all of which could affect the degree to which the research designs could, as a practical matter, be used by a standard-setter.

First, cross-country studies typically do not contain even roughly equal numbers of firms per country. For example, of the 21 countries studied by Barth et al., six have one voluntary IAS/IFRS adopter, three have two adopters, and over 70% of the sample is from China, Germany and Switzerland. Of the 26 countries and 8,726 firms studied by Daske et al., four countries have 40 or fewer firms and about 33% (60%) of the sample observations are associated with two (five) countries. This concentration of observations in some countries, with a relative dearth in other countries, is a feature of the data that cannot be altered by the researcher. Results obtained for the sample as a whole, in terms of effects, may vary in their applicability to a given jurisdiction.

Second, accounting researchers emphasise the importance, in cross-country studies, of controlling for differences in economic environments and regulation, particularly enforcement. The outcome indicators examined are affected by the standards themselves *and* the way the standards are imple-

³⁶ An alternative cross-sectional research design would focus on industry standards that would be applied only by certain firms, for example, SFAS 66, *Accounting for Sales of Real Estate*, 1982, now part of Accounting Standards Codification (ASC) Topic 976. However, research (e.g. Francis et al., 2004) suggests that a substantial portion of several accounting-based attributes appears to be determined by the firm's business model, which would be a function of, among other things, industry membership.

³⁷ For example, US GAAP (specifically SFAS 115, *Accounting for Certain Investments in Debt and Equity Securities*, 1993, now part of ASC Topic 320) requires an 'other than temporary impairment' (OTTI) analysis for fair value declines of available-for-sale and held-to-maturity securities. This requirement would not be expected to affect financial reporting during times of rising or stable financial asset prices, but would be expected to affect financial reporting during market downturns.

mented and enforced. Researchers can include control variables or shift the research design to accommodate these latter effects. With regard to a research design decision, for example, Barth et al. (2008) compare IAS/IFRS adopters before and after adoption (the firm is its own control) and use matched samples of adopters and non-adopters (to control for inherent differences that are associated, perhaps causally, with the adoption decision). If both adopters and non-adopters in the same jurisdiction exhibit changes in attributes of accounting information after the time period of IAS/IFRS adoption *and* the adopter changes were more positive, then that incremental difference could be interpreted as a measure of the benefits of voluntary IAS/IFRS adoption. Taking a related but distinct approach, Daske et al. (2008) use three types of controls in their examination of mandatory IFRS adoptions: firms in jurisdictions that do not require or permit IFRS reporting; firms in mandatory IFRS adoption countries whose adoption dates are after December 2005 because of their fiscal year-ends; firm-fixed effects.³⁸

Third, cross-country studies are not immune from results that vary depending on which outcome indicator is considered and depending on the specifics of the research design. For example, Barth et al. (2008) report that some results have predicted signs but are not significant at conventional levels and some results are contrary to predictions. As a result, researchers tend to rely on the weight of the evidence to support broad conclusions about effects, with the understanding that differences in research design decisions and differences in choices of outcome indicators could affect the results and conclusions.

It is possible, at least in principle, to apply the standard-by-standard research design in Kohlbeck and Warfield (2008) with a cross-country sample to examine the effects of a change in IFRS for IFRS users. An example would be revised IFRS 3, effective July 2009. If practicable, this extension would support an examination of the effects of revisions in IFRS, as opposed to the wholesale voluntary or mandatory adoptions that have been more commonly studied. Such an extension would require combining the research design decisions of Kohlbeck and Warfield with those of Barth et al. (2008) and Daske et al. (2008). In all cases, however, empirical researchers using these designs provide *ex post* analyses, based on outcomes

realised after a standard is issued, and cannot provide an *ex ante* assessment of costs and benefits.

Although standard-setters refer to qualitative characteristics of financial reporting information (relevance, reliability and comparability) and accounting researchers link these to empirical attributes of accounting information, the most direct measure of benefit to the owners of a firm that is subject to authoritative guidance and changes in that guidance is capital market outcomes such as liquidity and the cost of capital. Under this view, accounting quality as captured by accounting-based, market-based and analyst-based attributes is an intermediary outcome indicator between financial reporting and market outcomes.³⁹

Daske et al. (2008) analyse capital market effects – liquidity, cost of equity and the book-to-market ratio – in a cross-country study of mandatory IFRS adoptions. Recognising that researchers do not agree on how to measure certain capital market effects, they use four proxies for liquidity and four proxies for cost of equity (their measure is the average of the four); they interpret the book-to-market ratio as an indicator of equity valuation. Recognising that the capital market effects they study are not independent, they note that improvements in liquidity could decrease the cost of capital which would in turn increase equity values (other things constant). Their results suggest that mandatory IFRS adoptions are associated with liquidity benefits and, perhaps, cost of capital and valuation benefits, subject to the interpretation that market agents impound the effects of IFRS adoptions into costs of capital and valuations *before* IFRS are implemented – that is, the effects are anticipatory. The authors also note that magnitudes of estimated effects vary with the details of research design choices.

Accounting research on the effects, particularly the benefits, of accounting standards focuses on outcome indicators, for example, accounting-based measures of earnings quality or costs of equity. With regard to these outcomes, accounting researchers have not resolved the question of what are the relative contributions of standards, implementation decisions,⁴⁰ assurance and enforcement, including actions by securities regulators and, if

³⁸ Fixed-effects models control for unobserved characteristics that do not vary over time, but do vary across firms.

³⁹ Francis et al. (2004) investigate the association between several market-based and accounting-based earnings attributes and several measures of the cost of equity capital.

⁴⁰ I have suggested, in this discussion paper and elsewhere, that whereas accounting researchers often focus on the role of incentives in implementation decisions, it seems reasonable to consider the possibility that management's expertise and the availability, or not, of high quality data are at least equally important factors in implementations.

applicable, private actions. Accounting researchers often focus on some combination of incentives facing managers and strictness of enforcement as particularly important, and qualify their results as dependent on the ability to control for these effects. For example, Barth et al. (2008: 496–497) conclude that ‘Although we include research design features to mitigate the effects of incentives and the economic environment, we cannot be sure that our findings are attributable to the change in the financial reporting system [to IAS/IFRS] rather than to changes in firms’ incentives and the economic environment.’

This difficulty is an example of an identification problem, which arises when more than one set of factors (model parameters) can generate the outcomes that are actually observed. In the specific case of financial reporting standards and earnings attributes that are commonly studied by accounting researchers, the factors include the standards (our object of interest), the objectivity and expertise of those who implement the standards; the measurement complexity that is inherent in the arrangement being accounted for; the quality of the underlying information systems and the data they collect; the strength of assurance/attestation/governance functions; the strength of enforcement. Research that focuses on the effects of standards must of necessity control for these factors or assume they are second order effects or assume that they do not vary in ways that would affect the outcomes. Any one of these approaches is of course subject to its own difficulties.

To summarise, academic accounting research that considers the effects of accounting standards has tended to focus on benefits or at least on reporting outcomes and capital market effects. Academic accounting researchers have not focused much on survey-based methods to develop cost data. Research that considers reporting outcomes, for example, attributes of accounting information, sometimes reports mixed results depending on which outcome indicator is considered. Research that considers capital market outcomes similarly finds mixed results, depending on the specific capital market outcome considered and research design used. Researchers who examine accounting outcomes and capital market outcomes are analysing summary indicators that reflect the culmination of a multi-step reporting process (for accounting outcomes) or a multi-step reporting process plus a market-use process (for capital market outcomes); research has provided few definitive results as to what are the most important effects in these processes.

5. Concluding comments

Discussions of costs and benefits (or effects) of individual financial accounting standards are a pervasive feature of standard-setting; more generally, accounting researchers and others debate the costs and benefits of regulating accounting disclosures. The FASB laid out many of the issues – without resolution – in a 1991 Special Report on *Benefits, Costs and Consequences of Financial Accounting Standards*. Accounting researchers have focused on these issues from a variety of perspectives but have not provided definitive results or a generally agreed-upon approach to assessing costs, or benefits, or consequences. In fact, if allowances are made for the development of research designs, empirical techniques and measurement methods, many of the points made in the 1991 FASB Special Report remain valid today.

This discussion paper begins with a description of conventional cost-benefit analysis and analyses whether these techniques are, as a practical matter, applicable to the evaluation of individual accounting standards. I separate the collection of information about the cost to apply a standard from the development of benefits measures, and consider the distinction between a cost of applying an accounting standard and the consequences of the standard. Cost information is perhaps most readily collectible from survey data, although issues of non-response and unreliable estimates surely arise. Accounting researchers have studied the benefits of accounting standards, or at least their effects, using archival-empirical techniques and measures of financial reporting outcomes and capital market outcomes. Results of these investigations sometimes produce mixed and even conflicting results, perhaps because of inherent research design and measurement difficulties. In particular, accounting researchers focus on outcome indicators of the entire financial reporting process, of which standards are but one component (and researchers dispute the overall importance of that component).

I believe that the discussion in this paper supports the following conclusions. First, the way that accounting standard-setters approach cost-benefit (or effects) analysis does not align well with conventional cost-benefit techniques applied to public sector decision making, so it may make sense to abandon terminology that has perhaps been misleading, in the sense of non-descriptive of the cognitive processes standard-setters actually follow. Second, the techniques and methods of survey research to elicit revealed preferences and stated preferences might be used to gather data on the costs of accounting standards; however, it is an

empirical question as to whether the results would be worth the out-of-pocket costs, time delays and cognitive effort involved. Third, accounting researchers have devoted significant effort to estimating effects, including benefits, of changes in accounting standards, including estimates based on changes in the attributes of accounting information and changes in capital market outcomes such as liquidity and the cost of capital. Results of this research, however, may not be entirely satisfactory in terms of an effects analysis of a given financial reporting standard, in the context of financial reporting standard-setting, because of the limitations of research designs and techniques.

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[Editor's note: Technical references to standards are not repeated here as they are clearly documented within the text.]

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Discussion of ‘How can we measure the costs and benefits of changes in financial reporting standards?’

Steven Maijoor*

Being invited to participate as a discussant on the topic of cost-benefit analysis gave me a sense of pride, as my dissertation in the 1980s was about this topic of cost-benefit analysis of accounting regulation or accounting standards. However, it was then emphasised in the invitation that I should not be here as an academic but be here as a practitioner regulator and that I should forget about what I had learnt in that dissertation and focus instead on the regulatory practice of evaluating standards and regulation.

This paper is in essence about the very important topic of how do you channel or transfer knowledge from research into practice? It is about the question: can there be any specific recommendation from research into practice, and what should be the way to conduct that? The cost-benefit analysis as it is conducted in welfare economics or public economics is the standard technique used to transfer this knowledge from research into practice, so I will reflect on that.

There are three parts to my discussion. I will first reflect briefly on the paper, but in essence I agree with most of the comments that Katherine Schipper made; and basically she did it in half an hour. It took me four years to come to the same conclusion as a PhD student! I specifically agree with her analysis and the point about the inconsistency between using the term ‘cost-benefit analysis’ and what is actually conducted by the standard-setters. Then I will briefly give you some information on how we, as the Authority for the Financial Markets (AFM), as a securities regulator, use economic analysis. Finally, I will have a few recommendations on the interaction between academia and practice.

First, it is very clear from the paper that the cost-benefit analysis as it is portrayed or suggested within welfare economics or public economics is not the way it is applied to financial reporting

regulation or financial reporting standards. There are many studies focusing on effects for capital market variables like market liquidity and costs of equity. There are also many studies on the effects for accounting numbers, but these cannot be considered as cost-benefit analyses. I agree with the point that regulators or standard-setters should be more transparent about what they are doing when they are conducting a cost-benefit analysis.

It seems to me that in the paper there are many arguments as to why it is too ambitious to have a cost-benefit analysis isolating the individual effects of standards on capital markets. It is extremely difficult to isolate those effects. Another reason for abandoning the ambition of a cost-benefit analysis is that if you look at many decisions in the regulatory world in the financial sector, they are partly based on fairness issues. As was also discussed in the presentation, fairness is not covered by a cost-benefit analysis.

I can give you some examples of those fairness criteria. Many decisions in financial regulation are based on investor protection, and reducing information asymmetry. So these decisions are not necessarily based on efficiency or cost-benefit considerations, but on equity or fairness considerations.

I will now discuss how the AFM, the securities regulator where I work, uses economic analysis in its policy-making. Within our budgeting process, economic analysis of our regulatory interventions is a regular accountability item. So when we report to the public, we need to conduct economic analyses of our interventions on a case-by-case basis.

The following three examples outline the type of studies that were conducted within the AFM environment. The first is the example of the so-called Market Abuse Directive, which is a directive focusing on insider trading, which is very similar to the fair disclosure rule in the US. This is also briefly mentioned in the paper. That is an area where the AFM received powers and sanctioning possibilities,

*The author is Managing Director at the Netherlands Authority for the Financial Markets, and professor at Maastricht University and the Free University Amsterdam. E-mail: Steven.Maijoor@afm.NL

and we looked at how that affected the cleanliness of the market and how it affected pricing in the stock market.

A second study, which was referred to in the presentation, is that we asked academics to do a study on the implementation of IFRS in the EU in combination with the implementation of enforcement of IFRS in the EU. The study was conducted by Christian Leuz, together with a colleague of his, Luzi Hail. They looked at the capital market effects of the implementation of the combination of IFRS and enforcement. It is clear that we cannot disentangle these two factors. They looked at the effects for the costs of capital, and the liquidity effects of the implementation of IFRS and enforcement in the EU.

Finally, a study that I am involved in at this moment is a study in the area of auditing oversight. It is part of our mandate since 2006. We had to select and license audit firms, and some did not make it in the first round. We investigated to what extent our assessment of the quality of audit firms is reflected in the quality of the financial statements of their clients.

These are some examples of outcome-related studies, and I fully support conducting those studies. Why? It is because we, as regulators, are primarily accountable in terms of our effectiveness. Effectiveness is extremely important as a regulator, in terms of 'Are we getting the outcomes that we are expected to get as a regulator?' I do not want to underestimate the administrative burden of regulations and oversight for companies, but in the end I think effective regulation is a much more important criterion than the administrative costs, also knowing that when regulations are not effective, the costs to society are enormous.

I now move to the final part on the interaction between academia and practice. As I said earlier, strictly speaking, the cost-benefit analysis should be the way to do it, but at the same time, as Katherine Schipper said, it is impracticable, and I think it is even impossible. But I value the studies on the effects on capital markets outcomes and accounting outcomes.

The fact that it is difficult to do those cost-benefit analyses is not a reason to be silent in a more policy-orientated debate. I observe some reluctance by academia to be involved in normative discussions. I would like to encourage academia to be more involved in policy-orientated and normative debates, of course after having done proper research based on evidence-gathering.

One example which is currently very important is the discussion about fair value, and the transparency objective of financial reports versus the prudential regulators' perspective; how do we combine those two objectives? That is an area that is very fundamental to accounting, and I would like to see more contributions from the academic community in this debate. Personally, for example, I was very much inspired by the article by Douglas Skinner in the *Journal of Accounting and Economics* in 2008 on how this worked in Japan and the Japanese crisis. I think there are important lessons from this study for the current debate about combining – or should we not combine? – the objectives of transparency, and regulating banks on the basis of the same set of financial statements.

To conclude, I agree with most of what is said in the paper. I think we should abandon the ambition of cost-benefit analysis but still use the academic expertise to collect evidence on the effects of standards and regulations.

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Accounting Standards Steering Committee (1975). *The Corporate Report*. London: ASC.

Tippett, M. and Whittington, G. (1995). 'An empirical evaluation of an induced theory of financial ratios'. *Accounting and Business Research*, 25(3): 208–218.

Watts, R.L. and Zimmerman, J.L. (1986). *Positive Accounting Theory*. Englewood Cliffs, NJ: Prentice Hall.

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Abbreviations of institutional names should be written as, for example, FASB and not F.A.S.B.; those of Latin terms should contain stops (thus i.e. not ie). Words such as 'realise' should be spelt with an 's', not a 'z'. Single quotation marks should be used, not double.